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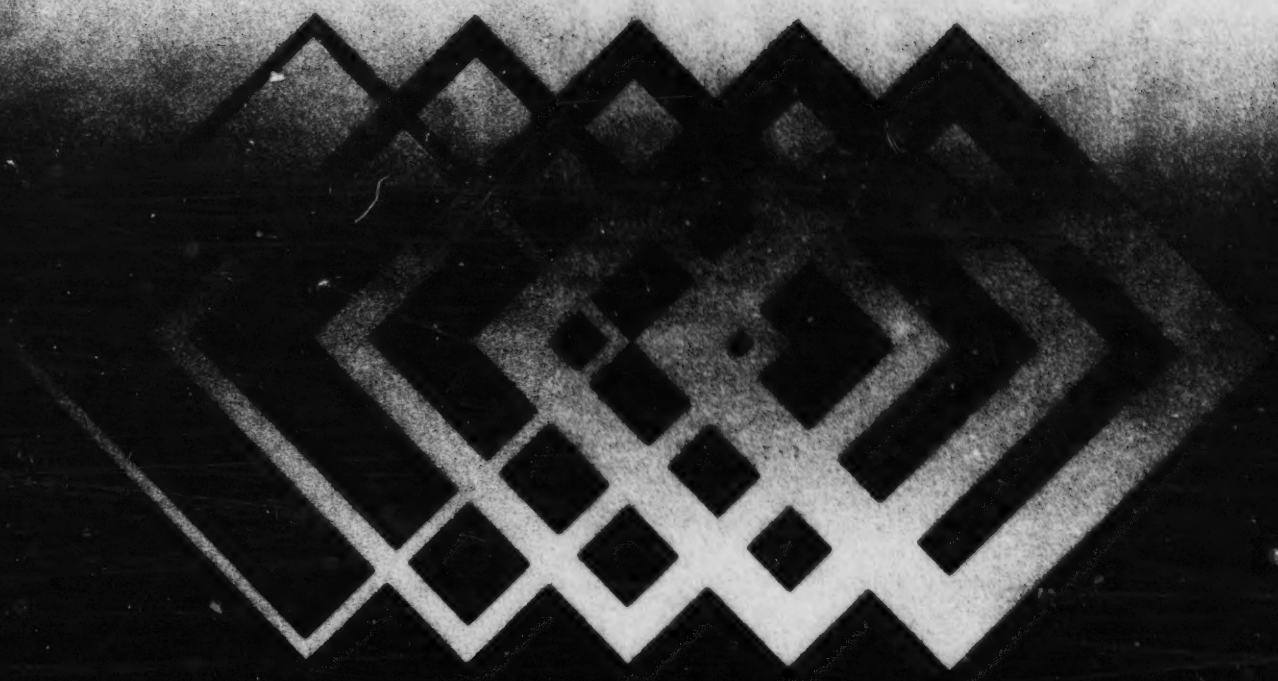

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This report reflects a consensus of the Members of the Economic Council of Canada. A joint comment by Raymond Koskie, Kalmen Kaplansky, and Diane Bellemare appears after Chapter 6.

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Preface

It is the duty of the Economic Council of Canada, in its Annual Review, "regularly to assess, on a systematic and comprehensive basis, the medium term and long term prospects of the economy, and to compare such prospects with the potentialities of growth of the economy," as stated in the *Economic Council of Canada Act*.

Traditionally the Council has supplemented the quantitative process of medium-term economic projections with a qualitative analysis of the performance of Canadian markets and institutions. The purpose of the Annual Review is to review key developments and to highlight the future: the opportunities and challenges that lie ahead in various parts of the economy. Are things happening today that will alter our prospects in the 1990s? How can we influence those prospects? What changes do they impose on us?

It is clear that the economy is changing rapidly and in fundamental ways. One can see new patterns of behaviour on the part of individuals and corporations, new methods of production and distribution, changing patterns of trade and payments in domestic and foreign markets, and changing relationships between citizen and state. All these structural changes are forcing a reassessment of established policies and programs.

Changes in structure usually happen gradually. Their impact on economic performance is often imperceptible at first but, over time, can be profound. One illustration is the pervasive influence of computer technologies on the organization of production and the workplace. Another is the impact of the increase in women's participation in the labour force on employment, incomes, and family life. The Council's role is to identify and examine these structural changes in the Canadian economy and, having done so, to advise governments and educate the public about their consequences. We have chosen the title *Changing Times* for two reasons. First, it reflects the intense pressure on Canadians to adapt to a different economic environment; we must move with the times if we are to meet our economic and social objectives. Second, the Council, too, is in a transition period, during which it is trying to identify its audience more precisely and to redefine its research outputs in order to adapt to the changing environment for economic research in Canada.

What is unique about the Economic Council of Canada is that it has the resources and the expertise to explore the issues in some depth. The Council has a mandate to probe the frontiers of knowledge and to apply that knowledge in a pragmatic way. It must act as an intermediary between the technical skills of the academic economist, the knowledge and initiative of individuals and enterprises active in the economy, and the policy orientation of public officials.

In its advisory role, the Council generates information and ideas for policy makers, parliamentary and legislative committees, and the private sector.

In its public-education role, the Council publishes a wide variety of both technical and policy-oriented documents intended to reach audiences ranging from the informed layman to the university researcher.

In both of these roles, the Council's objective is to:

- define the relevant agenda for research and policy analysis;
- outline the relevant framework for that research;
- use the framework to develop options for policy; and
- recommend the preferred options, based on sound economic analysis.

Both the advisory and the education roles require the in-depth research reported in our numerous publications. The Annual Review provides an overview. In this volume, we begin with a discussion of current economic issues, and we present our projections of the medium-term outlook. We then address three major themes: opening new markets; rethinking the role of key institutions; and reviewing recent and impending difficulties in some of the major resource sectors. In all three areas, the imperative is adjustment to structural change. We conclude with observations and suggestions directed at improving the functioning of the economy and the well-being of all Canadians.

Changing Times

READER'S NOTE

The reader should note that various conventional symbols similar to those used by Statistics Canada have been used in the tables:

. . figures not available
. . . figures not appropriate or not applicable
- - amount too small to be expressed
- nil or zero
e estimated figures
x data confidential, to meet the secrecy requirements of the Statistics Act.

Details may not add up to totals because of rounding.

Tables with numbers beginning with a letter prefix (A, B, C, etc.) appear in the corresponding appendixes.

1 Canada in the Global Setting

The celebration of Expo 86 in Vancouver this year is symbolic. It reaffirms the importance of global decisions and activities for Canada, as well as the nature of the changing world economy of which Canada is a part. This evolution has been marked by a dramatic increase in international flows of savings, in trade, and in the transmission of new technologies. Canada has benefited from these developments, and Canadian business enterprise has been part of them. Increasingly Canadians are looking to outside markets – the United States, the Pacific Rim, and elsewhere – for mutually beneficial trade and investment opportunities.

In much of this, the flows and cross-flows of financial capital and accumulated knowledge have been decisive. Developed and developing countries alike are adopting new technologies through joint ventures, or "subcontracting," or through the activities of multinational corporations, accelerating the shift from industries that were primarily labour-intensive or material-based to others that are information- and knowledge-based. Knowledge and technology are spreading rapidly.

The lively pace of global economic activity creates exciting opportunities for trade and investment; it also generates market uncertainties and breaks down what were once relatively stable business arrangements. The links between real assets and financial assets are no longer clear-cut, given the growth and mobility of financial flows in international markets, which are imperfectly regulated. The widespread application of computers and computer technology has broken many of the traditional links between employment and output in manufacturing. It is now common for manufacturers to announce major investment plans that increase output with no change in employment. Throughout the OECD countries most of the growth in employment has been in the service sector, increasingly among small enterprises. And yet unacceptably higher unemployment rates persist, putting in jeopardy the prospects for young people throughout the western world.

At the same time, disinflation is causing a redivision of incomes. The industrialized nations are now benefiting from low oil and commodity prices, and the distortions caused by inflationary pressures have been dramatically reduced. But the winding-down of inflation creates its own tensions. No longer, for instance, can businesses look to automatic price increases to allay inefficiencies; no longer can they borrow on the expectation of continuously rising asset values. They must become increasingly cost-competitive, and sensitive to swings in market demand.

In this Review we advance projections on the medium-term economic prospects for Canada, based on certain premises about world developments. But we advance them with some circumspection. For in this less-than-stable global environment it is not at all clear that traditional economic theory or statistical categories developed half a century ago can adequately convey, or explain, the changes that are now occurring. In today's dynamic and internationally driven world, analytic relationships derived on a more static, domestically oriented basis may no longer apply; measures of material inputs, outputs, and wealth need buttressing by those which reflect the increased emphasis on quality, speed, and knowledge. We therefore devote several chapters to some of the policy problems generated by an economy in transition. First, though, we turn to a review of recent developments.

U.S.-Led Recovery

Since the early 1980s, the United States has led the industrial world's economic recovery. The fiscal policy adopted by the present Administration, which includes increased defence spending, deregulation, and tax reductions, has imparted a massive stimulus to the U.S. economy, accompanied by very sizable federal-government deficits. In the process, the United States has developed a huge trade deficit, financed largely by foreign savings, such that the United States has become a major debtor country – a most remarkable turnaround. The high domestic growth rates and lower unemployment rates enjoyed by the United States in the past few years occurred during a period of somewhat slower domestic growth rates among the trading partners whose savings the United States was enlisting. The combination of high nominal and real U.S. interest rates, necessary to attract foreign capital, and strong domestic growth resulted in an appreciation of the U.S. dollar far beyond what comparative cost levels would support. The effects were predictable: the inability of U.S. producers to compete in a variety of manufacturing industries; the loss of export markets and a massive influx of imports; and the growth of domestic protectionist sentiments within the Congress and elsewhere, looking to the use of nontariff barriers

and countervailing actions to restrict imports. And while the U.S. Administration, in cooperation with major OECD governments, has been successful in causing the U.S. dollar to depreciate since 1985, its differences with the Congress over tax reform and deficit-reduction measures are only now being resolved.

It is worth observing that, as was emphasized at the recent Summit Meeting, much of the burden of international adjustment in 1986 has fallen upon Japan. A large proportion of the foreign savings fueling U.S. growth has been Japanese, and with the United States now the world's largest debtor, about half of that debt is owed to Japanese banks and investors. Unlike many of the debt-ridden developing countries, there is no question of the economic stability of the United States. But also unlike those nations, the United States owes its foreign debt in its own currency. To reduce the debt burden, the United States has only to devalue its currency, which it has effectively done by about 40 per cent against the yen since February 1985. Clearly, Japanese and other foreign investors advancing loans to, and buying assets in, the United States are motivated by the long-term objectives.

Financial Flows and the Debt Crisis

International financial flows have traditionally been seen as facilitating trade. In fact, the relationships are more complex. Flows of direct investment from one country to another and flows of portfolio capital involving the sale and purchase of financial assets affect exchange rates, which in turn impact on interest rates and on trade flows. It is estimated that the London Eurodollar market turns over US$300 billion each working day, and this is only one of the world's main money centres. These capital movements are largely unconnected and independent of trade flows. Most are carried out between banks and other financial institutions, including a lot of short-term capital transactions in response to exchange rate fluctuations.

There is no single explanation for the veritable explosion of international money flows in the 1970s and 1980s. Much of it was due to the shifts from fixed (or pegged) to floating exchange rates in the early 1970s. But some of the surge was in response to the oil price shocks of 1973 and 1979, imparted by the Organization of Petroleum Exporting Countries (OPEC), when those benefiting from higher oil prices recycled their profits through the international banking system worldwide. And much of it simply reflected the growing internationalization of business decisions and the competitive aggressiveness of financial institutions in a period of high inflationary expectations. During this period the banks were encouraged to organize and advance loans to developing countries in Latin America and Southeast Asia. More recently the banking system has recoiled from its earlier enthusiasm, in the light of the huge debt buildup in many of these countries – in Latin America, in particular – and their difficulty in financing repayment.

Ten years ago the outstanding debt of the developing countries was just over US$223 billion, of which 28 per cent was owed to private financial institutions. By 1982, at what was considered the height of the debt crisis, when interest rates were at their peak and imported oil was still very costly, their total indebtedness had increased to $569 billion, of which over 40 per cent was owed to private financial institutions. The Secretariat of the United Nations Conference on Trade and Development (UNCTAD) has estimated that by the end of 1985 the outstanding debt was close to $650 billion. This huge stock of debt, along with the exposure of some banks and other financial institutions, has severely strained the international financial community. Despite concerted efforts by the International Monetary Fund (IMF), governments, and other funding agencies to stabilize and adjust debt repayment schedules or to negotiate rollover loans, the debt situation continues to generate caution and uncertainty, and to put upward pressure on interest rates. In some debtor countries, for instance, more than one-third of export earnings is used to pay the interest on the debt (Table 1-1).

The post-recession strength of the United States should have boosted the exports of Latin American countries and eased considerably their overall indebtedness. To some degree, this has been the case. The cumulative trade balances of the 10 major Latin American debtors rose from about US$11 billion in 1980-82 to $109 billion in the period 1983-85. The adjustments, however, have come about largely from domestic retrenchment and reduced imports. The prices of primary products – many of their main exports – have remained low, such that while the Latin American debtor nations have increased the volume of their exports, the overall dollar value of their export earnings has remained relatively stagnant.

Indeed, in Latin America, much more so than in Southeast Asia or elsewhere, the debt situation remains critical. Three elements in particular are troublesome. First, several countries have failed to maintain adequately competitive exchange rates, and while some have been relatively successful in holding back double- and triple-digit inflation, the average annual increase in consumer prices for all of the 10 debtor nations in recent months has been running at an annual rate of over 100 per cent. Second, all have experienced a reduction in living standards over the past five years, and in the main oil-producing countries – Mexico, Peru, and Venezuela – the fall threatens to

Table 1-1

Selected Debt Indicators, Seven Large Developing Countries, Various Years, 1980-85

	Argentina	Brazil	Mexico	Peru	Venezuela	Nigeria	Philippines
Ratio of debt to exports[1]							
1982	405	339	299	251	169	85	270
1985	483	368	322	370	201	180	342
Ratio of interest payments to exports							
1982	50	54	44	25	18	8	24
1985	52	41	33	31	18	13	28
				(US$ billions)			
Net capital outflows							
1981-82	7.0	0.2	-8.2	0.4	-7.2	2.7	2.0
1983-84	0.2	-1.8	-6.5	0.5	-2.6	-1.2	0.6
				(Per cent)			
Public sector deficits (as a proportion of GNP)							
1982	17.7	-15.8	17.6	-9.1	-12.9	-10.9	-4.8
1984	-12.0	-23.5	-7.6	-7.6	3.5	-4.5	-3.6
				(US$ billions)			
Trade balance							
1980	-2.5	-4.8	-4.1	0.8	9.2	10.0	-2.5
1984	3.5	11.8	12.3	1.3	7.7	8.3	-0.7
				(Per cent)			
Consumer prices (change over previous year)							
1980	100.8	78.0	26.3	59.2	23.1	9.9	18.0
1984	626.7	172.5	65.5	110.2	12.2	39.5	50.4

1 Average of the gross external debt at the beginning and the end of the year, as a percentage of exports of goods and services.

SOURCE Morgan Guaranty Trust Company (New York), *World Financial Markets* (September/October 1985); and United Nations, *Monthly Bulletin of Statistics*, various issues.

become acute. The ability of these nations to service their debt, particularly with interest rates remaining high, has been critically eroded. And, third, compounding their problem has been a massive flight of capital, much of it back to the United States. The extent of this flight, often occurring legitimately through the acquisition of foreign exchange and overseas assets by residents is demonstrated in Table 1-2. In the years 1983 to 1985, close to 70 per cent of all net new borrowing by these Latin American countries was offset by the continuing flight of capital abroad. For one example, Mexico's external debt by the end of 1985 could have been some US$80 billion lower had the earnings on foreign assets been repatriated rather than reinvested externally.

We raise these matters here because they illustrate how tenuous are the strands that underlie the solvency of, and confidence in, international financial markets. They affirm, as well, the exposure of banks in the industrialized world in the event of new international shocks. While most nations, including Canada, have required their banks to build up their capital, including their loan loss reserves, the magnitude of the international debt problem, compounded now by regional problems resulting from the dramatic fall in oil prices, has tended to make the commercial banks very cautious. Recent rescheduling arrangements have helped to reduce amortization payments by about $45 billion. Adoption of the Baker Plan proposed by the U.S. Secretary of the Treasury (calling for a combination of private and public loan disbursements worth $56 billion over 1986-88, under overall IMF surveillance) can also help. Nonetheless, some of them may not even be able to do much more than meet their interest payments.

Low Primary-Commodity Prices

Of related concern to developing countries, and to Canada as well, is the collapse of the prices of primary

Table 1-2

Capital Flight and Net New Borrowing,[1] 10 Latin American Countries, 1983-85

	Capital flight[2]	Net new borrowing[3]
	(US$ billions)	
Argentina	0.1	6.5
Bolivia	0.3	1.0
Brazil	6.6	20.2
Chile	-0.6	3.9
Columbia	0.7	3.2
Ecuador	0.6	1.3
Mexico	16.2	9.0
Peru	1.1	2.9
Uruguay	0.2	0.5
Venezuela	5.5	-4.2
Total	30.8	44.2

1 Cumulative flows.
2 Capital flight can be defined as the reported and unreported acquisition of foreign assets by the nonbank private sector and some elements of the public sector. It includes the foreign-currency working balances of local enterprises engaged in international trade, as well as unrecorded trade transactions and valuation changes in debt and official reserves due to exchange rate movements. A minus sign indicates net inflows.
3 Increase in gross external debt from the end of 1982 to the end of 1985; a minus sign indicates net repayment of debt.
SOURCE Morgan Guaranty Trust Company (New York) *World Financial Markets* (February 1986).

products. By early 1986, in relation to the prices of manufactured goods and services, raw material prices were at their lowest levels in recorded history. Despite earlier dire predictions of shortages by such eminent organizations as the Club of Rome, global agricultural output is now at an all-time high. In the last 10 years, production of most forest products, metals, and minerals has risen by between 20 and 35 per cent, with the greatest increases occurring in less-developed countries.[1] What has happened? The demand for food and certain other raw materials has actually grown as fast as the Club of Rome and others had predicted; however, the supply has grown much faster. While both the United States and the European Economic Community have engaged in massive programs of subsidized food production, the greatest increases have been in developing countries such as India, Southeast Asia, and more recently China. These developments have been accomplished through new methods of cultivation; new fertilizers and insecticides; better storage and waste control; and genetic improvements, both in preventing diseases and in increasing yields. Population growth in much of the world is slowing down, but food production is on the rise.

As for raw materials, a recent IMF study[2] indicates that for the better part of this century the amount of raw material needed for a given unit of economic output has been dropping. Industrial production is steadily switching away from material- and energy-intensive products and processes. The potential for downsizing has been further dramatized by the introduction and widespread application of silicon chips. These trends are undermining the growth in demand, creating the prospect for a continuation of low commodity prices.

Canada cannot be immune to these developments. The farm community is already feeling the pinch; the debt/equity ratio of other primary producers is disturbingly high; and, of course, many oil producers are in financial distress. The banks still suffer substantial exposure abroad and domestically they have many outstanding loans to precariously solvent oil, farm, and business developments.

Only on one front – fresh and processed fish – is the price outlook bullish for Canadian producers. Partly because of shifts in consumer tastes and partly because of significant improvements in processing and marketing, seafood sales and prices have advanced strongly. While fishing conditions and catches are always uncertain and while problems in some of the fisheries remain on both the East and the West coasts, most fishermen now are benefiting from higher incomes.

The Special Case of Oil

Since the writing of our last Annual Review, the most startling event has been the collapse of world oil prices. While some softening was anticipated, the reduction of spot prices to the US$10 level and the prospects of oil prices hovering in the $10-15 range were not anticipated by even the most astute oil analysts. And yet oil prices, in real terms, have followed a distinct cyclical pattern that, because of the longer leads and lags associated with exploration and development, differs from the patterns of other minerals and metals. In real terms the last peak in oil prices occurred in 1981, and the present overhang of excess capacity in the industry suggests that there may be no recovery of real prices much before the early 1990s. For most oil-importing countries, the gains associated with the present price collapse have been buttressed by the fact that oil prices are denominated in now-depreciating U.S. dollars. Lower real oil prices mean less inflation and stronger growth.

During the 1970s many of the original producing nations and some developing nations nationalized what were formerly oil-production properties of international oil companies. In the 1970s these nationalized producing firms accounted for nearly three-quarters of the oil sold in international markets. But their presence

altered the structure of the world oil market, breaking the traditional linkages between oil production and end use in the industrialized countries. The tight coordination of production and refining was no longer feasible; thus the international oil companies were prompted to shift their search for oil to new, often high-cost, areas where they were welcome. With the separation of production and refining operations, the volume of oil bought on the spot market rose from about 5 per cent to perhaps 50 per cent of all traded oil, creating price volatility and, as the supply from high-cost areas increased, breaking OPEC's hold on world prices.

Over the years the OPEC countries, led by Saudi Arabia, were able to curtail production, to keep prices at a managed level. But that effort effectively subsidized the prices for high-cost producers elsewhere. OPEC's share of world oil production sank from 55 per cent in 1973 to 30 per cent in 1985. High prices brought new supplies onto the market, even as the growth in overall demand was being tempered; British and Norwegian production reached record levels in 1983, and India and Brazil have moved rapidly from being large importers towards oil self-sufficiency.

The result was exactly the opposite of what one would have anticipated in a truly free market. In such a market, where resources are exhaustible, production should be led by the least-cost producers, with the production capacity of higher-cost producers being brought on stream only when world demand and supply scarcity warrant the higher-cost oil. Saudi Arabia's decision to flood a weak market, with the intention of pushing prices down rapidly, was designed to reverse this process or at least to bring high-cost producers to curtail their output, thus forcing prices to rise again.

What may we expect in the future? First, low prices will forestall much of the new energy investment that might otherwise have occurred, and this in turn will result in dramatically decreased production levels in certain parts of the world, including the United States and Canada, unless strategic considerations intervene. Once the surplus production capacity of the world has been drawn down, this could lead to a reassertion of Saudi dominance in the international oil markets in the 1990s and to an even greater western dependence on Middle East oil than existed in the 1970s. Second, with oil-exporting countries receiving substantially lower revenues, those – like Mexico – which carry a heavy debt burden will be severely hit, creating greater risks for their creditors. Third, the oil industry in North America and Europe, though still largely dominated by the large international oil companies, is hurting, and the loss of oil revenues is putting additional strains on financial institutions. Indeed, given the heavy indebtedness of some major oil companies, the persistence of low oil prices could lead to an extensive restructuring of the industry worldwide.

Trade Developments and Exchange Rates

Although, since 1976, the Canadian dollar has depreciated quite substantially against the U.S. dollar, the precipitous rise in the latter against other foreign currencies took the Canadian dollar along with it. The result was that opportunities for Canadian exports, particularly of manufactured products, have been best found in the United States, and our share of export trade to Western Europe has dropped off. Thus while the current negotiations on freer trade with the United States are timely, Canada must continue to pursue trade possibilities with other markets.

Canada, along with other nations of the world, will enter into a new round of GATT (General Agreement on Tariffs and Trade) negotiations in late 1986. Canada's concerns and objectives in those negotiations, along with the prospects for Canada-U.S. free trade will be described in Chapter 3. Suffice it to say that many observers expect the new negotiations to be extremely difficult. For, despite the relative success of the Tokyo Round in reducing tariffs on a wide array of items, particularly in the industrialized countries, many of these tariffs have been replaced or augmented by nontariff forms of protection. At this stage, it is not clear how determined some of the participating countries really are in achieving reciprocal, unconditional tariff reductions, to say nothing of eliminating the nontariff barriers. While most governments espouse the cause of freer multilateral trade, many developing countries are approaching the negotiations with deep misgivings, and there are still scores of protectionist bills before the U.S. Congress. Few, if any, of the major OECD countries would consider even a partial elimination of the Multi-Fibre Agreement, and more and more trade – estimated at about 44 per cent for the OECD – is being managed in one way or another.[3] Even for manufactured goods, 17 per cent of OECD trade was managed by 1980 – up from 4 per cent in 1974.

The move away from fixed or managed exchange rates to free-floating rates was considered desirable because it allowed nations a wide degree of autonomy in setting monetary, fiscal, employment, and trade policies domestically, while leaving the exchange rate to respond internationally. But fluctuating rates, which can become misaligned for considerable periods of time, introduced additional uncertainty for exporters and importers. Currency depreciation can more than offset the trade-stimulating effects of tariff reductions, whereas currency appreciation can equally offset whatever protection is afforded by tariffs. To this uncertainty, add the vigorous competition for export

markets by developing and developed countries alike, prompting many countries to manage trade through a variety of subsidies, procurement policies, or barter arrangements or to turn to other nontariff barriers to regulate trade. The United States has relied extensively on contingency protection; witness the recent duties against Canadian cedar shakes and shingles. Another example is the effort currently under way to bring countervailing action against Canadian softwood lumber imports into the United States. The relative weakness of the Canadian dollar vis-à-vis the U.S. dollar makes Canadian raw material exports attractive to U.S. purchasers. But the response of U.S. lumber interests has been to call for either import restrictions of a voluntary or involuntary type or a surcharge on Canadian lumber.

Thus the original separation of trade matters (administered under GATT) from foreign-exchange matters (primarily under the purview of the IMF) is no longer clear-cut. In this regard, it has been observed that "a signal feature of the floating era [is] that the institutions regulating cooperation in trade matters have been spectacularly bypassed just as those affording cooperation in macro-economic policy have been weakened. The weaknesses in the two areas are mutually reinforcing. The consequences of a failure to cooperate in macro policy must undermine any attempt to do so in trade. . . . Greater fixity in exchange rates can be brought about only by providing for the coordination of policies among countries."[4]

Repercussions for Canada

Thanks in part to contained inflation and to the lowering of energy prices, the prospects for Canada, on balance, appear to be relatively favourable. Global developments, however, can alter the pace, direction, and structure of domestic developments; hence, a note of caution. During the past few years the United States, fueled by foreign savings, has been the principal locomotive driving the international economy. It, too, is benefiting from low energy prices, which are helping to lower inflation and increase real incomes. Uncertainty exists, though, as to how much farther and how quickly the U.S. dollar will continue to decline against the currencies of other major trading nations. And this in turn is interrelated with how effectively the Administration and the Congress address the issue of the U.S. budget deficit, since cutting the budget deficit would free up U.S. savings to offset the dependence on foreign savings. Most observers believe that the Gramm-Rudman-Hollings initiative, even though it has been struck down in part by the Supreme Court, has provided a sufficient fillip to the Administration and the Congress to reduce the structural deficit firmly but gradually. Together with lower inflation and lower interest rates, this would allow for a "soft landing" of the U.S. dollar after some further depreciation.

But there is the other possibility that events in the United States or the rest of the world could prompt investors to sell their U.S.-dollar securities and purchase Japanese or West German securities (for example). Such a sharp movement out of dollar exposure would accelerate and deepen the dollar's decline, fuel inflation, and generate the "clear risk of a self-feeding spiral of eroding confidence between domestic financial and foreign exchange markets."[5] In this "hard-landing" scenario, the U.S. Federal Reserve Board would have to take action to bolster interest rates in order to buttress the falling dollar; and this, together with budgetary cuts, could trigger a renewed U.S. recession. Slower growth and higher interest rates in the United States would, in turn, slow growth in other OECD and developing nations, impact heavily on Canada, and aggravate the international debt crisis.

Another area of uncertainty has to do with lower commodity prices. Most of Canada's recent growth has been in the central provinces. But with Canada traditionally relying on its primary resources for much of its exports, the prospects of persistent low commodity prices – except in the ocean fisheries – suggest that serious adjustments and losses of employment will likely occur in the resource-producing regions and towns of Canada. Depressed oil, gas, and grain prices are already having negative repercussions in the Prairies and putting the offshore developments in the Atlantic and Beaufort Sea regions at risk. Canada has invested heavily in agriculture, and many federal and provincial programs have been aimed at encouraging farmers to maintain their farms and to ride out cyclical troughs in agricultural prices. But with signs of an all-out price war between the United States and the European Economic Community (with each vigorously subsidizing the sale of grain), Canadian producers and the Canadian Wheat Board are caught in the squeeze.

Much depends on the goodwill and the success (or otherwise) of the Canada-U.S. freer-trade negotiations.[6] Clearly there are differing views among members of the Congress and between the Congress and the Administration, with respect to both what is brought to the negotiating table and what overriding authority the negotiators may exercise. At this time, interest in the freer-trade option is much more acute in Canada than in the United States, since the relative gains for Canadians appear to be more pronounced. In the Congress the concept of freer trade, either bilateral or multilateral, tends to be reinterpreted as "fair" trade, with fair being very much in the eye of the (U.S.) beholder. Although a lower U.S. dollar is already bringing an increase in orders to many U.S. exporting industries and in time will ease the heavy U.S. trade deficit, one cannot dismiss the strength of protectionist

forces in the Congress and within the U.S. electorate at large. The Administration has been relatively successful in holding back most pressures for increased protection, but with the Congress retaining the ultimate authority to accept or reject a freer-trade arrangement, and with a new administration a little more than two years away, one cannot predict the outcome with surety.

It is perhaps too soon to conjecture about the outcome, and we tend to be modestly optimistic. But if the talks fail, that will raise several concerns. First, the United States itself is a huge market, and at least for a period of time it can probably isolate itself behind protective barriers without seriously lowering the standards of living of its people; Canada cannot. To compete, Canadian enterprise must have access to foreign markets and must be at the forefront of technological ingenuity and productivity. Second, it will raise the spectre of future tensions and uncertainties, not only between the negotiating parties but also among western trading partners generally. And, third, it will mean that Canada will have to press even harder at the GATT for multilaterally negotiated reductions in both tariff and nontariff barriers.

What all of this implies is that economic dynamics have decisively shifted from the national economy to the world economy, even though the instruments of political control remain with national governments. No longer can nations leave it to exchange rate adjustments to intermediate between domestic and foreign events. Increasingly governments, business, and labour must look to the world economy and base their plans and their policies on exploiting the world economy's opportunities. While interest groups in all countries will seek ways to avoid change and while governments naturally will seek to cushion costly adjustments, clearly there is need for an overall domestic and international coordination of effort. Internationally it is possible to reduce the volatility of exchange rate swings and to bring down tariff and nontariff barriers, but parallel domestic policies will be needed to help facilitate domestic adjustment. Successful policies will be those that reinforce the nation's ability to compete internationally. They will call for determination and understanding at federal, provincial, and local levels. They will call for flexibility – flexibility in the workplace, in the relationship between labour and management, and in the design of government programs. And they will call for a strong sense of national harmony and a concern for those who are affected. For the adjustments that must be made are not solely the responsibility of individual firms and individual workers: they are the responsibility of all society.

This presents a very real challenge for Canadians, for we have a tendency to adopt an adversarial approach to economic issues. Yet, despite this, there is a growing list of joint efforts to address the fallout from international market pressures;[7] these are initiatives to build upon in the years ahead.

2 The Medium-Term Outlook

Despite the pause part way through this year, the Canadian economy overall continues to make impressive gains. In an environment of decelerating inflation, lower interest rates, and an improved outlook for real incomes, employment, and the balance sheets of the personal and the corporate sectors, the economy has grown at a relatively healthy pace for the third consecutive year. Canada's real GNE is expected to grow by 3 per cent in 1986, outperforming that of many of the major industrial economies. Moreover, the Canadian economy has remained robust, in that domestic demand has replaced net exports as the engine of growth. And last year, for the first time during the current recovery, the contribution of investment to growth was substantial (Table 2-1).

There have been impressive gains in productivity since the 1981-82 recession. Last year saw the creation of nearly 400,000 new jobs, more than three-quarters of which were full-time jobs; this year the increase in employment will be in the order of 310,000. Because of substantial additions to the labour force, however, the reduction in the unemployment rate has been modest:

Table 2-1

Economic Performance Indicators, Canada and the United States, 1983-85[1]

	1983-85		1985	
	Canada	United States	Canada	United States
Change in:		(Per cent)		
Real GNP[2]	4.2	4.1	4.0	2.2
Consumer expenditure	3.9	4.1	5.0	3.3
Business fixed investment	1.8	11.0	6.6	7.5
Government purchases	1.9	3.8	1.9	6.0
		(1981 $ billions)		
Net exports[3]	17.3	-70.9	18.0	-108.4
		(Per cent)		
Labour force	1.8	1.6	1.9	1.7
Employment	2.0	2.5	2.8	2.0
GNP deflator	4.0	3.8	3.4	3.3
Consumer price index	4.7	3.7	4.0	3.5
Unit labour costs (per employed person)	2.2	3.4	3.1	4.5
Level of:				
Unemployment rate	11.2	8.1	10.5	7.2
Personal saving rate	14.2	5.6	13.5	4.7
Short-term interest rate	10.1	8.5	9.6	7.5
		($ billions)		
Federal budget balance	-29.3	-184.3	-32.3	-200.5
Current-account balance	1.9	-88.4	-0.6	-117.1

1 Canadian figures are based on data in Canadian dollars, while U.S. figures are based on data in U.S. dollars.
2 Real GDP for Canada, as per revised National Accounts.
3 For Canada, net exports exclude income flows.
SOURCE For Canada: Statistics Canada, *National Income and Expenditure Accounts, 1st Quarter, 1986*; for the United States: U.S. Department of Commerce, *Survey of Current Business*, recent issues.

it declined from 11.3 per cent in 1984 to 10.5 per cent in 1985, and it is currently hovering between 9.5 and 10 per cent.

In response to a decline in inflationary expectations and in U.S. interest rates, Canadian interest rates declined significantly in 1985, averaging about 150 basis points (i.e., 1.5 percentage points) below their levels in the previous year, and they have continued their slide this year. However, substantial downward pressure on the Canadian dollar has prevented Canadians from enjoying the full benefits of the secular decline in U.S. rates.

In the past, recoveries that reached the age of the present one (about three years) typically showed signs of strain, as output approached capacity and inflation began to pick up. This in turn led to a cyclical downturn. Now, however, contrary to past experience, there are a number of favourable factors that justify a more optimistic view. First, inflation in most of the industrial countries remains low and shows no signs of acceleration. This is helping to reduce interest rates. Second, the decline in oil prices and its favourable impact on real incomes in oil-consuming countries will provide additional overall stimulus. Third, an improved policy mix, combining a somewhat tighter fiscal stance with looser monetary policy, in many of the other OECD countries (the United States, in particular) has brightened the outlook for interest rates and exchange-rate stability in the major industrial countries. Fourth, there has also been a recognition of the need to cooperate to correct some of the serious imbalances in the world economy, particularly the severe debt problems of the developing countries. These highly positive developments could prolong the current recovery into the late 1980s, making it the second longest since 1945.

Nevertheless, 1986 is proving to be a year when some adjustments are temporarily deflecting growth from its strong performance of the last three years. For example, the leads and lags related to lower oil-price adjustment are certainly not the same for investment-planning decisions as for the general consumption of oil-related products. The oil industry in Canada, the United States, and elsewhere feels the negative effect almost immediately, whereas it takes more time for consumers to benefit from lower oil prices. Similarly, the lags in response to the exchange-rate readjustments since mid-1985 now appear longer than most analysts had anticipated. The U.S. trade balance has not improved as quickly or as much as originally expected. But these developments have to do primarily with timing, and they should not change the fundamentals in play over the long run. Nor do they imply that the temporary deflection of growth to lower levels in early 1986 will develop into a serious period of recession. What they do suggest is that Canada may be in for a longer period of adjustment than was originally expected before the benefits and dividends of these events become widespread.

Yet there are still several areas that are cause for concern. Even though the two economies grew at the same pace over the last three years, the Canadian unemployment rate is still well above the U.S. rate and above the rate recorded in this country prior to the 1982 recession. The rapid increase in Canada's labour force, the better productivity performance, and the very large decline in output and employment in 1982 account for most of the difference. In 1982 there were roughly 350,000 fewer Canadians employed than in the previous year, and Canada's unemployment rate soared from 7.5 per cent in 1981 to 11 per cent in 1982. Since then, employment in Canada has grown by more than a million, but the growth of the labour force has almost kept pace. While the rates in Ontario are now in the vicinity of 7 per cent, the unemployment picture has not improved significantly in western Canada and the Atlantic provinces. In Alberta it is clear that the sharp decline in oil prices will accentuate the problem.

Moreover, while real investment in Canada expanded at a healthy pace (6.6 per cent) in 1985, the investment/GNE ratio is very low by historical standards. Much of the improvement in this area in 1985 was due to big gains in spending on housing. Weak commodity prices, high real interest rates, and excess capacity are factors that may inhibit the volume of investment in the years ahead.

Even with the healthy rise in output and employment over the past three years, the federal budget deficit continues to prompt concern. While on the positive side the decline in interest rates has eased the government's debt-servicing costs, the rising stock of debt associated with annual deficits is undermining the government's discretionary ability to introduce and deliver essential services.

The Base-Case Outlook

As in past Annual Reviews, we use a "base-case" projection to assess the future prospects of the economy. The base-case projection should be regarded as a conditional forecast, based on historical relationships and our best judgment about the factors that shape the Canadian economy in the medium term. These factors include domestic policies, business and consumer confidence, the medium-term outlook for Canada's trading partners, financial markets in the United States, commodity prices, and the degree to which past history can provide a reliable guide to the future. Only partially, of course, can they anticipate the full scope of contemporary managerial decisions, which often run well ahead of historical relationships

and trends. This notwithstanding, the major assumptions underlying the base-case outlook are described in the box below and in Table 2-2. They are also examined in greater detail in Appendix A.

Overall, the base-case outlook argues that lower interest rates and oil prices, a reasonably favourable world economic outlook, and an improved mix of monetary and fiscal policies, both in the United States and Canada, will sustain economic growth, contain inflation, and gradually reduce the unemployment rate. The commodity price slump, however, is likely to result in sharply increased regional pressures and to undermine to some extent the prospects for a strong surge of business fixed investment in those regions that are very much resource-dependent. And once the current

Domestic Policy Assumptions in the Base Case

Energy pricing – Crude petroleum and natural gas pricing structures as per the 1985 Western Accord and the subsequent Agreement on Natural Gas Markets and Prices. Crude petroleum pricing is closely related to international pricing developments, and natural gas pricing is also deregulated after November 1, 1986.

Tax policy – All tax schedules (personal, corporate, and indirect) announced in the February 1986 budget are incorporated as of March 1986. Previous energy taxation schedules are replaced by the Western Accord measures and the subsequent natural-gas pricing agreement. Thus the petroleum and gas revenue tax on domestic production is phased out as per the Western Accord schedule, and the motive-fuels excise tax is implemented as per the May 1985 budget and the June 1985 amendment schedule. All provincial budgets as of June 1986 are incorporated.

Expenditure policy – Government spending on goods and services is restrained with annual increases in real expenditures averaging as follows: federal government nondefence, 0.7 per cent, and defence, 2.8 per cent; provincial governments – wages and salaries, 1.5 per cent, and other spending 3.5 per cent. Government wages are indexed to increase in line with the consumer price index. Major government prices are set at 3.6 per cent per annum. Transfer payments are indexed as legislated. Established Programs Financing and fiscal arrangements reflect budget changes and the five-province standard for equalization payments. Federal spending associated with capital assistance and subsidies reflects existing government policy.

Monetary policy – Canadian interest rates are in line with U.S. rates. The money supply is accommodating, with temporary downward movements in velocity accounted for.

Table 2-2

External Environment Assumptions, Base-Case Projection, 1986-96

	1986	1987	1988	1989	1990	1991	Averages 1986-91	Averages 1992-96
Change in:				(Per cent)				
Industrial production								
OECD area	1.9	4.0	2.4	0.4	4.3	3.7	2.8	2.8
Selected OECD countries[1]	2.6	3.1	2.5	2.5	3.2	3.4	2.9	3.4
International price (in Canadian dollars) of crude petroleum (f.o.b.)[2]	-44.4	0.0	9.8	9.1	6.0	6.5	-2.2	6.5
United States								
Real GNP	2.7	4.1	2.5	0.5	5.7	3.1	3.1	2.7
Industrial production	1.6	4.4	2.4	-0.7	4.9	3.9	2.8	2.5
Consumer price index	1.6	3.0	4.7	5.3	3.8	4.0	3.7	4.8
Level of:								
U.S. unemployment rate	7.0	6.4	6.7	7.7	6.7	6.4	6.8	6.1
U.S. short-term interest rate[3]	6.9	7.3	6.9	8.5	7.5	7.0	7.4	7.3

1 France, Italy, West Germany, the United Kingdom, and Japan.
2 In our assumptions, the international price increases from the 1986-87 level of US$15 to US$16.50 and US$18 in 1988 and 1989, respectively, before resuming a growth path averaging 1 per cent in real terms for the remainder of the period.
3 Short-term (three-month) prime commercial-paper rate.
SOURCE Economic Council of Canada, CANDIDE Model 3.0, August 1986.

expansion matures, there is the possibility of another growth pause.

Before describing the base-case projection in detail, a note of caution is in order. In addition to the uncertainties imparted by the revisions to the National Accounts (see box), there are genuine questions as to whether the historical relationships underlying the nation's economic performance remain as they have been or whether in the competitive globalization of markets that is occurring new relationships are being struck. Clearly there are "structural breaks" in economic trends, such as that generated by the formation of the OPEC oil cartel and followed by the explosion of inflationary pressures throughout the industrialized western world. Today, with OPEC in some disarray, inflation contained, debt reduction an almost universal concern, and most enterprises leaner and more technologically modernized, it is likely that economic signals and responses have changed. The manner in which individual sectors and governments respond to sudden international price or market shocks may also have changed. If this is indeed the case, some of the mathematical equations in CANDIDE 3.0, which are built on historical trends, may not reflect reality as well as they once did. And, as a result, some of the CANDIDE projections may turn out to be considerably off the mark. This is a problem, of course, shared by all econometric forecasting models. Ultimately, as the new relationships become apparent and are captured in econometric models, the estimation problems associated with "structural breaks" will diminish.

The base case exhibits the following characteristics (Table 2-3).

Over the next five years, growth in real GNE will average about 3 per cent, with consumer expenditure and residential and nonresidential business investment (both construction and equipment) providing most of the stimulus. Real government expenditure on goods and services will grow at a considerably slower pace than aggregate output throughout the projection period, reflecting the restraint programs adopted by all levels of government. Despite fairly strong growth in exports, on average, the contribution of the trade

The Effect of National Accounts Revisions on the Economic Projections – Caveats

The projections contained in Chapter 2 were developed using CANDIDE Model 3.0. Recently Statistics Canada completed a major statistical revision of the database upon which economic models, such as CANDIDE Model 3.0, are based. Statistics Canada carries out these systematic revisions so as to incorporate new data and to include methodological improvements to the system of National Accounts. The revisions improve our understanding of the economy and increase our ability to judge the impact of current events and policies on the future path of the Canadian economy. As we adjust our thinking and our models to reflect the information contained in a newly revised database, however, there is some hesitancy when making assessments of future economic conditions.

The last major revision of the system of National Accounts was completed in 1972; limited revisions were completed in 1977 and 1983. But since the last major revision in 1972 and the subsequent limited revisions, the results of the 1983 Annual Retail Trade Survey and the 1982 Family Expenditure Survey have become available. Incorporating new information from such surveys as these presents an opportunity to improve the methodology, to eliminate statistical breaks, to extend the detail, and to reduce measurement error.

Furthermore, during a major revision, definitional, presentational, and methodological changes can be implemented to ensure better linkages with other parts of the Canadian system of National Accounts. For example, the current revision, with its new emphasis on gross domestic product rather than gross national product, provides an easier transition when viewing the provincial and national economic accounts jointly. Both systems of accounts are now on a domestic basis, with the result that provincial totals add directly to national totals without requiring further adjustments to ensure that the national concept is on a domestic basis. Moving to the GDP concept as the main aggregate conforms more closely to international practice and to the presentation recommended in the United Nations system of National Accounts.

In the accounts, an attempt is also made to remove price effects from the current-dollar expenditure series, by using an appropriate base-weighted price index. The 1986 revisions to the system of National Accounts also included a change in the base year used to construct these price indices. The base year has been shifted from 1971 to 1981. In addition, certain other refinements have been made to the construction of these price indices, including the use of new methodology in the construction of price indices related to computers.

All of these changes have made it difficult to use analytical tools such as CANDIDE Model 3.0 to assess the economic outlook. We have tried, however, to develop some systematic links between the old and the revised systems of National Accounts in developing our projections. The Council, in past Reviews, has always focused on growth rates rather than levels in its analysis and presentational material. By linking the growth rates of the major aggregates found in both the revisions and the previous system of National Accounts, we have been able to develop a set of projections, that we feel provides an acceptable degree of accuracy for our current analytical purposes. Forecasting the future is a tenuous activity even under normal conditions; after a major data revision it is even more tenuous. Over the longer haul, however, the new information, once absorbed, will enable analysts and policy makers to make more knowledgeable decisions.

Table 2-3

Selected Economic Indicators, Base-Case Projection, Canada, 1986-96

	1986	1987	1988	1989	1990	1991	Averages 1986-91	Averages 1992-96
Change in:				(Per cent)				
Real GNE	3.0	4.1	3.2	1.3	2.8	3.9	3.0	3.7
Consumer price index	3.2	2.5	2.8	3.8	3.8	3.5	3.3	4.1
Labour force	2.3	1.5	1.6	1.6	1.2	1.2	1.6	1.4
Employment	3.1	2.0	1.4	1.6	1.8	1.6	1.9	1.9
Productivity (output per person-hour)	0.5	2.4	2.4	0.6	1.7	2.7	1.7	2.4
Real wage rate	1.8	2.7	2.5	1.7	2.6	2.9	2.4	2.8
Nominal wage rate	5.0	5.2	5.4	5.6	6.5	6.6	5.7	7.0
Total investment	5.1	3.9	4.3	2.6	1.6	3.8	3.5	4.1
Level of:								
Unemployment rate	9.8	9.4	9.5	9.5	9.0	8.6	9.3	7.1
Participation rate[1]	65.7	66.2	66.6	67.1	67.5	67.6	66.8	68.4
As a proportion of GNE:								
Real investment	20.4	20.4	20.6	20.9	20.6	20.6	20.6	20.8
Government surplus or deficit								
Federal	5.7	4.7	3.8	3.6	3.2	2.5	3.9	1.1
Provincial	0.7	0.7	0.5	0.6	0.5	0.4	0.6	0.1
Balance of international payments								
Current account	0.9	0.3	0.2	1.0	0.4	0.3	0.5	0.3
Energy	1.2	1.0	1.1	1.1	1.2	1.2	1.1	1.1
Nonenergy	2.1	1.4	1.3	2.1	1.7	1.5	1.7	1.4

1 Labour force as a proportion of the population aged 15 and over.
SOURCE Economic Council of Canada, CANDIDE Model 3.0, August 1986.

sector to real growth will remain slightly negative over the medium term – the result of extensive debt-servicing expenditures.

Strong gains in real incomes, supported by an improvement in productivity and employment, explain much of the strength in consumer expenditure, accompanied by a steady decline in the personal saving rate. An improved outlook for inflation and interest rates and for government budget deficits will add to consumer confidence and help to explain this drop in the saving rate.

Over the next five years, we anticipate that an unusual combination of factors will keep the inflation rate low, compared with recent years – possibly the lowest since the 1960s. These factors are: the collapse of oil prices, very weak commodity prices, healthy gains in productivity, moderate wage settlements, and the continuation of fiscal restraint. As the economy moves towards its potential level and as the favourable impact of declining oil prices on the cost of living wanes, inflationary pressures could pick up, but we regard the upside risks on that front as being small unless monetary growth exceeds the assumed path.

Our base-case projection shows only a small improvement in unemployment rates in the near term. Over the next five years, the unemployment rate is expected to remain around 9 per cent because the growth in the labour force will continue to keep pace with the growth in employment. Later, over the period 1992-96, employment growth will consistently outstrip the rise in the labour force, resulting in a gradual decline in the unemployment rate to below 7 per cent by 1996.

Our projections indicate that the combination of a maturing labour force, new technologies, and low real energy prices will result in healthy productivity improvements, making room for a substantial increase in real incomes. Over the next 10 years, we expect that measured productivity (output per person-hour) will grow at an average annual rate of about 2 per cent, while real wages will increase at an even stronger rate. This will be a big improvement over the late 1970s, but

it will still be less than the strength shown during the 1950s and the 1960s.

On the other hand, in spite of fairly strong growth, higher utilization rates, and improved cash flow and profitability, the medium-term investment recovery is expected to be quite modest by historical standards because of five factors. These include high real interest rates (about 450 basis points above the historical norm), very weak prices for resource-based products, a dismal outlook for energy investment, excess capacity in parts of the resource and manufacturing sectors, and general government restraint. As a result, the share of real business investment in GNE is projected to remain well below historical levels, constraining what would otherwise be significant gains in productivity and real incomes.

Deficit reduction is still a central policy issue for the federal government, and it must remain so. As a result of the actions taken or announced and of an improved outlook for output, employment, inflation, and interest rates, the federal deficit (on a National Accounts basis) will decline from $32.3 billion in 1985 to less than $20 billion in 1990. Moreover, if interest payments are excluded, the federal budget balance will show a healthy surplus over the next 10 years, similar to that experienced during the 1960s. Consequently, the ratio of federal debt to GNE and the proportion of government expenditure going to debt servicing are expected to peak around the turn of the decade and to decline steadily thereafter.

However, deficit projections are extremely sensitive to assumptions about economic activity and interest rates. For example, our calculations suggest that if interest rates average 100 basis points – i.e., one percentage point – below projected levels, the federal deficit could average over $3 billion below base-case levels. On the other hand, a weaker global economic outlook, coupled with higher interest rates, could substantially increase both deficit and debt levels above those projected. Thus the success of the government's deficit-reduction strategy depends in part on developments external to Canada.

While it is extremely difficult to forecast the current-account balance (the broadest measure of Canada's foreign transactions) with any reasonable degree of accuracy, this year's medium-term assessment is substantially less optimistic than previous assessments. The deterioration in the terms of trade, resulting from a poor outlook for primary commodity prices and from the collapse in oil prices, explains most of the difference. For example, the balance (surplus) associated with the energy account is now expected to be about 1.1 per cent of GNE in the period 1986-91 – less than half the surplus projected in previous years. Hence our base-case projection calls for a current-account deficit in the medium term rather than the surplus anticipated in last year's Review. Thanks to a better inflation projection and to a significant improvement in the federal deficit, however, the value of the Canadian dollar continues to hover in its present range vis-à-vis its U.S. counterpart.

The Performance Band

In Appendix A we consider some areas of uncertainty, on both the international and the domestic fronts, that could lead to quite different outcomes. These include the outlook for oil prices, productivity, interest rates, the Canadian dollar, the investment scene, and developments in the United States and abroad. The impact on the base case of each of these alternatives, taken separately, can be seen in Table A-2. We then combine the alternatives into the following two cases and establish a high- and low-growth performance band for the major economic indicators around the base-case scenario (Table 2-4):

1 "High-growth" scenario: This embodies lower oil prices, higher productivity growth, a stronger Canadian dollar,[1] and a more favourable U.S. performance than are included in the base-case scenario.

2 "Low-growth" scenario: This embodies higher oil prices, lower productivity growth, weaker investment, a weak dollar, and a less favourable U.S. performance than in the base-case scenario.

The high-growth alternative increases real GNE, lowers the unemployment rate, and reduces budget deficits. During the 1986-91 period, growth in GNE averages 4 per cent – 1 per cent above the base-case growth rate. As a result, the unemployment rate in 1991 declines from the 8.6 per cent in the base case to 7.6 per cent in the high-growth case. Similarly, the improvements in the federal deficit and in the inflation rate are substantial. In 1991, the federal deficit as a share of GNE is 1.8 per cent rather than the 2.5 per cent in the base case.

In contrast, the low-growth scenario lowers output growth, raises both the unemployment rate and the inflation rate, and increases the federal budget deficit as a share of GNE. In this scenario, the unemployment rate stays above 9 per cent; annual inflation rises to the 6-to-7-per-cent range, and the federal deficit hovers well above the level consistent with full capacity utilization.

These cases illustrate the impact that alternative events could have on the medium-run prospects for Canada, confirming that there is room for substantial variation in the outlook for real GNE, inflation, unemployment, and government deficits. They also suggest, however, that even under the most favourable

Table 2-4

Performance Band for Major Economic Indicators, Canada, 1986-91

	1986	1987	1988	1989	1990	1991	Average 1986-91
Change in:				(Per cent)			
Real GNE							
Base case	3.0	4.1	3.2	1.3	2.8	3.9	3.0
Low-growth scenario	2.1	2.8	1.9	0.1	2.4	3.6	2.1
High-growth scenario	3.4	5.0	4.3	2.3	3.9	4.9	4.0
Consumer price index							
Base case	3.2	2.5	2.8	3.8	3.8	3.5	3.3
Low-growth scenario	3.9	6.2	6.2	7.1	6.5	5.9	6.0
High-growth scenario	1.9	0.5	0.7	1.6	1.7	1.9	1.4
Productivity (GNE per person employed)							
Base case	0.1	2.1	1.7	0.3	0.9	2.3	1.1
Low-growth scenario	0.7	1.3	1.1	1.0	1.4	2.7	0.4
High-growth scenario	0.3	3.1	2.7	0.3	1.5	2.6	1.8
Level of:							
Unemployment rate							
Base case	9.8	9.4	9.5	9.5	9.0	8.6	9.3
Low-growth scenario	10.1	10.1	9.0	9.3	9.5	9.5	9.6
High-growth scenario	9.8	9.4	9.5	9.2	8.4	7.6	9.0
Short-term interest rate							
Base case	9.6	8.8	8.3	9.1	7.9	7.7	8.6
Low-growth scenario	10.4	9.7	11.8	11.9	11.0	10.0	10.8
High-growth scenario	8.9	7.2	6.5	7.3	6.0	5.6	6.9
As a proportion of GNE:							
Federal deficit							
Base case	5.7	4.7	3.8	3.6	3.2	2.5	3.9
Low-growth scenario	5.9	4.8	4.2	4.3	4.4	3.7	4.6
High-growth scenario	5.7	4.6	3.5	3.1	2.5	1.8	3.5

SOURCE Economic Council of Canada, CANDIDE Model 3.0, August 1986.

circumstances it will be difficult, because of the pace of labour force growth, to lower the unemployment rate much below 9 per cent before 1990. Similarly, persistent effort will be required to reduce the federal budget deficit steadily over the medium term.

The projections do not attempt to encompass major new policy initiatives, as yet unannounced, at either the provincial or federal level. Yet, at least at the federal level, several are on the horizon. There are major changes to be made in the regulation of financial institutions; the government is committed to a review and reform of the tax system, and of some of the social programs as well. These initiatives may further alter the way in which individuals and businesses respond to traditional economic incentives and opportunities – in their consumption, savings, and investment patterns, for instance – and affect the nation's overall economic performance. Above all, there is the prospect of freer trade with the United States, giving Canadian producers easier access to a market 10 times the population size of the domestic market. What prospects might this offer for additional output and employment? We turn to this question in the next chapter.

3 Canada's Trade Experience and Opportunities*

In this chapter we review Canada's trade performance. We then turn to a preliminary assessment of the impact of opening new export markets through bilateral and multilateral trade negotiations. In various simulations we focus particularly on the effects of freer trade with the United States on Canadian output and employment; we compare this with the impact on Canada of a renewed protectionist stance by the United States. We conclude by considering some of the implications for domestic adjustment of a freer-trade deal with the United States or under the GATT.

The simulations clearly demonstrate that over a period of years Canada stands to benefit from freer-trade arrangements with the United States in terms of output and employment. They also show that should Canada, along with other countries, somehow be drawn into a major protectionist confrontation with the United States, with each country mutually retaliating, there would be immense losses for Canada, particularly in employment.

The primary message that flows from this analysis is that, over time, virtually all sectors in Canada will gain from access to the larger market. Some firms and some communities will lose ground and will need to modernize and restructure or specialize if they are to survive. All Canadians must be sensitive to the prospect that some citizens will lose their businesses or their jobs. Freer trade will increase output and employment opportunities overall, but the new jobs may not go to the places or people who are adversely affected. The dislocations may affect some men and women with years of seniority in older traditional lines of activity, whereas the new opportunities are likely to be more widely dispersed and perhaps require more up-to-date skills. In short, freer trade is not without problems.

The issue demands a broader perspective, however. Canada has already seen a decade of tariff reductions associated with the GATT negotiations – a period during which domestic employment grew by over 2 million. The number of persons displaced during that period as a result of successful trade negotiations was small in relation to the number of those who, for other reasons, lost or quit their jobs and found new ones. In a situation where the nation's overall prosperity will be increased as the result of a successful Canada-U.S. agreement, it should be possible, with prudent and sensitive programs, to provide alternative opportunities for those who are displaced. Over the next two years, this Council will be completing a number of projects that probe into the impact of freer trade on individuals and on specific industries.

*A joint comment on this chapter by Raymond Koskie, Kalmen Kaplansky, and Diane Bellemare appears after Chapter 6.

Trends in Canada's Trade Position

During the decades of the 1960s and 1970s the growth of world trade outstripped that of world output by over 50 per cent. And while much of that growth centred in the developed economies, a significant share of the expansion came from the developing world (Table B-1). In the process, Japan's share of world exports almost tripled – from 3.2 per cent in 1960 to 9.1 per cent in 1985.[1] Meanwhile, the emergence of OPEC trade could clearly be seen, heightened by the high oil prices that ultimately encouraged the development of alternative supplies and the reduction of OPEC's market share. But the most notable development has been the recent deterioration of the U.S. trade balance. The relative decline in U.S. exports occurred in the 1960s and 1970s, having dropped from 16 per cent to about 11 per cent of world exports by 1980, where they remain today. On the other hand, U.S. imports held relatively steady, at around 12 per cent of world imports up until 1980, but subsequently soared to close to 18 per cent. In the process, the U.S. merchandise trade account moved from a surplus in earlier years to a massive US$145-billion deficit in 1985, fueled by the higher value of the U.S. dollar, by foreign borrowings, and by repatriated capital. Canada's merchandise trade has been relatively buoyant, with surplus balances throughout the 1980s.

Table B-2 shows the trends in the major components of Canadian external trade in real terms. Over the years there has been a marked increase in both exports and imports, with manufactured goods gaining prominently on both sides of the ledger. The most dramatic growth has been in transport-equipment trade, mainly as a result of the 1965 Canada/U.S. Automotive Agreement. In 1985 the value of Canadian exports of automobiles, trucks, and other transport vehicles and equipment accounted for 33 per cent of export receipts – more than four times the average share in the 1960s.

The growing importance of manufacturing trade has come about partly as a result of deliberate policy actions but also as a reflection of Canada's growing

market maturity. On the other hand, the share of agricultural and mining products has declined. As noted earlier, world competition in primary products (including steel and nonferrous metal production by developing countries) has increased quite dramatically.

While the depreciation since the mid-1970s of the Canadian dollar against the U.S. dollar by some 30 per cent has been a factor, much of Canada's recent export success can be linked to the vigour of the U.S. recovery. Through 1982-84 the current-account balance, which takes account of services as well as merchandise, averaged an annual surplus of $2.9 billion – a phenomenon not seen since the 1940s (Table B-3). But in 1985 the volume of grain sales fell by 21 per cent, and with other commodity prices generally depressed, Canada's current account reverted to its more traditional deficit position. While the volume of wheat export sales may recover, in 1986 the world export price per tonne is expected to drop by as much as 30 per cent. In the meantime, world oil prices have fallen by more than 50 per cent, knocking about $2 billion more off Canada's net earnings on sales of crude oil, petroleum products, and natural gas.[2]

Canada's net international investment position shows liabilities now exceeding $160 billion; close to 90 per cent of this is long-term debt. As a result, despite some diminution in interest rates, international-debt servicing in the current account showed a 1985 deficit of almost $15 billion.

On the capital side, portfolio investment in Canada increased by close to $13 billion in 1985. At the same time around $8 billion of direct investment left Canada as a result of repatriated foreign holdings or of Canadians purchasing equities abroad. Canada has been a net exporter of direct investment since the mid-1970s. In the early 1980s, a good portion of this net outflow resulted from Canadian repatriation of several foreign-controlled energy ventures. But generally Canadian firms have been investing vigorously in equity holdings in the United States and abroad.

International trade in services, particularly in business services, is likely to be a major focus of the next GATT round of negotiations. These services include such items as consulting and other professional services; transportation-related services; communications; computer services; advertising and promotional services; commissions; royalties, patents, and trademarks; financial and insurance services; and so on.

Canada has traditionally been a net importer of business services; in 1984, for example, the deficit amounted to $2.2 billion. But Canadian service enterprises have been active: in 1984, receipts from the export of business services were five times as high as in 1973, whereas payments for imports of services were four times as high as a decade earlier (Table 3-1).

Three-quarters of the business services that Canada imports come from the United States, whereas only half of the exports are directed there. Many of the services imported into Canada are bought by foreign-controlled firms from their parent affiliates. These firms are largely located in the Canadian manufacturing sector. In contrast, Canadian exports of business services are mostly generated by Canadian-controlled businesses and are directed to nonaffiliated companies abroad. Indeed, the growing share of Canadian exports

Table 3-1

Canada's Trade in Business Services,[1] by Area, 1973 and 1984

	1973			1984		
	Receipts	Payments	Balance	Receipts	Payments	Balance
	($ millions)					
United States	477	1,219	-742	2,493	4,883	-2,390
United Kingdom	94	137	-43	219	549	-330
Other EEC	90	97	-7	325	339	-14
Japan	30	18	12	112	105	7
Other OECD	49	55	-6	125	226	-101
Other countries	99	95	4	1,213	564	649
Total	840	1,619	-779	4,486	6,667	-2,181

1 Includes consulting and other professional services; transportation-related services; management and administrative services; research and development; commissions; royalties; patents and trademarks; films and broadcasting; advertising and promotional services; financial services; insurance; computer services; equipment rentals; franchises and similar rights; communications; tooling and other automotive charges; and other.

SOURCE Statistics Canada, *Canada's International Trade in Services*, Cat. No. 67-510 (occasional), June 1986, p. 25.

of services going to non-OECD countries is mainly attributable to the rising trade in consulting and professional services associated with large projects overseas.

Opening New Markets

In 1975 the Council published *Looking Outward* – a report that reviewed the history of Canadian commercial policy over the past century, evaluated the various commercial-policy options open to Canada, and strongly recommended a Canadian move towards further trade liberalization. The Council concluded at that time that the greatest economic gains to Canada would come from a multilateral arrangement involving the many contracting parties of the GATT. Second on the list was a move towards a bilateral arrangement with the United States, and following distantly last was the option of a unilateral reduction of trade barriers by Canada alone. In 1982 the report of the Standing Senate Committee on Foreign Affairs, under the chairmanship of Senator G. C. van Roggen, expressed many of the same views. Since then, there has been a growing recognition of the importance of trade expansion and more secure access to world markets if Canadian firms are to remain competitive and world-class.

Indeed, over the years Canada has stressed the importance of continued multilateral efforts under the GATT to reduce tariff and nontariff barriers to trade. The GATT system of rules and regulations "has provided Canada with the certainty and predictability its economy needs." By 1987 the Tokyo Round tariff reductions will be in place, and Canada has been actively involved in preparations for the current GATT round, which began at Punta del Este, Uruguay, in September. Canada considers new multilateral negotiations to be complementary to the current bilateral negotiations with the United States. There are many topics to be explored, and many of the GATT contracting parties have clearly defined positions in relation to reductions in tariff and nontariff barriers covering both goods and services.

With the recent realignment of the U.S. dollar and the likelihood of some further adjustment, the return to more-balanced relationships in international trade seems possible. Yet, because Canada is a small market with no direct ties to larger ones and is heavily dependent on international trade, it is highly vulnerable to

Figure 3-1

U.S. Trade Actions Taken Against Canada, 1980-86

	Product industry	Final action
1980	Sugars and syrups	Quota
1982	Carbon and certain alloy steel products	Voluntary export restraints
1983	Specialty steel products	Quota
1983	Dried salted codfish	20.75 per cent duty (antidumping action)
1984	Raspberries	0.99 per cent duty (revoked January 1986)
1984	Hogs and pork	4.39¢ lb. countervailing duty on hogs
1985	Manhole covers, sewer grates and construction castings	10.2 per cent duty (antidumping action)
1985	Softwood shingles and shakes	35 per cent duty
1985	Carbon steel	Voluntary export restraints
1985	Fresh Atlantic groundfish	5.82 per cent countervailing duty
1986	Gas- and oil-well steel products	0.72 per cent countervailing duty (one company: IPSCO)
1986	Gas- and oil-well steel products	Duties up to 40.85 per cent; average duty 19 per cent (antidumping action)
1986	Salmon and herring fisheries	Escape clause action[1]
1986	Softwood lumber	Countervailing-duty investigation[1]
1986	Carnations	Countervailing-duty and antidumping investigations[1]
1986	Brass sheet and strip	Antidumping investigation[1]

1 In progress.

SOURCE Alan M. Rugman and Andrew Anderson, "Administered protection: U.S. trade law as a non-tariff barrier to trade," *The World Economy* (forthcoming).

protectionism, whether it be in the United States or elsewhere. The move towards bilateral and multilateral trade negotiations is therefore a way to extend Canada's market affiliations in ways that will be mutually beneficial. Since three-quarters of Canadian trade is concentrated there, secure access to the U.S. market is critical for Canada. At the same time, more and more Canadian firms are becoming confident in their ability to compete in the large North American market and in overseas markets.

Yet it has been the very success of Canadian and other firms in selling on the U.S. market that has heightened the rising protectionism in the United States. Between 1980 and 1986, at least 22 antidumping investigations, 14 countervailing-duty cases, and six escape-clause actions were brought against Canadian exporters.[3] Of these contingency protection cases, actual trade actions imposing customs duties, voluntary export restraints, and quotas were taken against Canada in 12 cases (Figure 3-1). Indeed, in 1985 about 10 per cent of Canada's nonauto and nonenergy exports to the United States were subject to countervailing-duty, antidumping, and escape-clause actions. At present, four trade actions (involving softwood lumber, salmon and herring, brass sheet and strip, and carnations) are in progress. In addition, the United States has terminated a number of trade investigations – in products such as potatoes, frozen potato products, unprepared fish, canned clams, rail passenger cars, etc. – without taking action.

This escalating pattern of trade actions against Canada is costly in two ways. First, it creates uncertainties for Canadian exporters and poses the longer-run question of whether Canadian producers may slowly but inexorably lose access to their major export market. Second, the many protectionist bills now pending before the U.S. Congress, if passed and implemented, could have the effect of distorting the investment plans of many Canadian firms concerned about their continued access to the U.S. market. Their best defensive move could become that of locating their facilities in the United States.

Freer Trade with the United States

Such is the backdrop to the historic initiatives that have been set in place to explore the possibility of a Canada-U.S. trade agreement.

The 1985 Quebec Trade Declaration by Prime Minister Mulroney and President Reagan urged Canada and the United States to "chart all possible ways to reduce and eliminate existing barriers to trade" between the two countries. Since that time, consultations have taken place among various levels of government and nongovernment bodies on both sides of the border, and trade negotiations between Canada and the United States got under way in June 1986. The U.S. Congress has authorized President Reagan to commence Canada-U.S. bilateral negotiations, using the "fast-track" procedure. With this sort of procedure, an overall trade agreement can be presented to the Congress that is not open to amendment. The Congress must therefore accept or reject the negotiated package. The fast-track procedure will expire in January 1988, thus limiting the time frame within which bilateral trade negotiations must be completed. The current trade negotiations encompass most areas of trade between the two countries, and both tariff and nontariff barriers.

Although a large portion of Canada-U.S. trade flows is unhampered by tariffs, tariff barriers still exist for many commodity groups, and many are still quite high. By 1987, when the tariff reductions resulting from the Tokyo Round will have been fully implemented, about three-quarters of the mutual trade between Canada and the United States will be duty-free. For the rest, Canada's post-Tokyo Round tariff barriers will be more than twice as high overall as the corresponding U.S. tariffs facing our exports.

For Canada, U.S. nontariff barriers are perhaps more of an impediment to trade than U.S. tariffs. Nontariff barriers, of course, are evident on both sides of the border. The trade barriers embodied in government procurement policies, which have presented the greatest difficulty to Canadian exports, include the "Buy American" provisions of both federal and state laws, such as the *Surface Transportation Assistance Act* of 1982. On the Canadian side, there are the federal regulations favouring domestic suppliers, as well as provincial trade barriers. Some of the provincial barriers upon which U.S. negotiators will focus their concern are the provincial liquor regulations that give preference to local products in advertising, display, and pricing, as well as the provincial-government procurement policies. The most common methods of preferential procurement include selective or single tenders instead of public tenders; restrictive bidding through the use of local source lists; performance requirements that match closely what local producers can supply; the provision of preferential price margins for local producers; and residence requirements for vendors. These preferential procurement practices usually apply to purchases made by provincial hydro and telephone companies, school systems, and public transit systems, as well as government departments.

Canada has much to gain from the elimination or reduction of these barriers on both sides of the border. The issue of the U.S. "contingency protection" – the countervailing and antidumping duties and safeguard

actions (temporary import-relief measures) – is central to Canadian negotiation objectives. Canada will seek exemption from the application of contingency measures against its exports. Canada is also likely to seek to establish a formal dispute-settling mechanism through which bilateral trade disputes can be resolved. The inclusion of Canada under "Buy American" policies would open up a host of opportunities for Canadian firms, particularly those at the forefront of technology. Domestically, the removal of some interprovincial barriers would help to stimulate industry rationalization and specialization. From a national perspective, the ultimate result could be improved productivity and economic growth.

Simulating a Canada-U.S. Freer-Trade Agreement

In the meantime, debate has naturally turned to such questions as: What would be the overall effect of a bilateral freer-trade agreement on the Canadian economy? What would happen to employment in Canada? To the current-account balance? In an attempt to provide answers to such questions, we have carried out a number of simulations, using as a starting point the base-case projection developed by the Council with the help of its econometric model, CANDIDE 3.0. With respect to trade, the base-case projection is based on the assumption that there will be no change in trade policy beyond what is currently scheduled. The adjustments made to the base-case projection to develop the four Canada-U.S. trade scenarios are described in Figure 3-2, and the results of the four simulations appear in Tables 3-2 and B-4.

Our first CANDIDE simulation (SIM.1) examines what would happen if all U.S. and Canadian post-Tokyo Round tariffs and some nontariff barriers[4] were removed completely in 1987. The results show that the net impact on the Canadian economy of the mutual removal would be beneficial. With the elimination of trade barriers, the price of imported goods would be reduced, and Canada would gain not only from lower prices to consumers but also through reduced costs of production and thus increased competitiveness. All industrial sectors, including primary, manufacturing, and services, would gain in output. Unquestionably, some enterprises that have traditionally been highly protected would lose, and for many enterprises there would be serious adjustment problems. But, nationwide, real economic growth would improve progressively, with net employment gains reaching 120,000 in 1991 and over 200,000 in 1995 (Chart 3-1). The increase in real output attributable to bilateral trade liberalization would amount to nearly 2 per cent by 1995. This improvement in the economy would result from increased consumption and investment, the stimulus given to export-oriented industries, and the reduced levels of inflation throughout most of the period. The consumer price index would be 2.8 per cent below that in the base case. Unemployment rates would be lower by close to 1 percentage point.

The simulation results do not take into account *all* the potential benefits of freer trade with the United States. They concentrate only on those potential gains which would arise from reduced trade barriers in both Canada and the United States. There would be additional, long-term potential gains from trade liberalization. A reduction in trade barriers and the resulting increased competition with U.S. industry – by stimulating product specialization, introducing new products, increasing economies of scale, and restructuring Canadian production – could have a substantial effect on aggregate productivity and particularly on the competitiveness of Canada's manufacturing

Table 3-2

Impact of Four Canada-U.S. Trade Scenarios on GNP, Employment, and the Unemployment Rate, Canada, 1991 and 1995

	Real GNP		Employment		Unemployment rate	
	1991	1995	1991	1995	1991	1995
	(Per cent)		(Thousands)		(Percentage points)	
Difference from base-case levels:[1]						
Removal of trade barriers	1.5	1.9	123	205	-0.7	-0.9
Removal of trade barriers, plus productivity gain	3.0	3.6	207	376	-1.1	-1.6
Phased removal of trade barriers, plus productivity gain[2]	1.9	3.3	91	321	-0.5	-1.5
Protectionism with retaliation	-4.3	-5.0	-371	-528	2.0	2.4

1 The base-case solution assumes that there will be no change in trade policy beyond what is currently scheduled.
2 Assumes that the removal of trade barriers will be phased in over the period 1987-92.
SOURCE Economic Council of Canada, CANDIDE Model 3.0, August 1986.

Figure 3-2

Adjustments Made in CANDIDE 3.0 Model to Develop Four Canada-U.S. Trade Scenarios

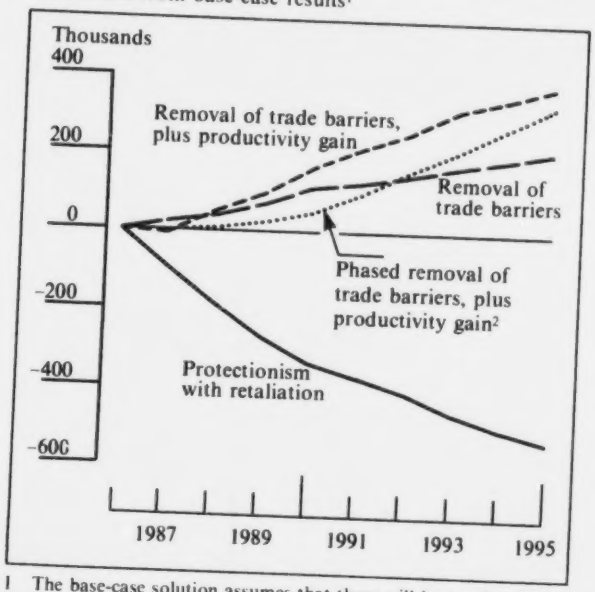
	SIM.1 - Canada-U.S. freer trade: removal of tariff and non-tariff trade barriers	SIM.2 - Canada-U.S. freer trade: removal of tariff and nontariff barriers, plus productivity improvement	SIM.3 - Canada-U.S. freer trade: phased removal of tariff and nontariff barriers, plus phased productivity improvement	SIM.4 - Greater U.S. protection: import surcharge, with retaliation
Nature of adjustment:				
Canadian trade barriers	Adjusting import prices by removing Canadian post-Tokyo Round tariffs and selected nontariff barriers (quotas, voluntary export restraints, etc.). This adjustment has the effect of increasing imports from the United States, reducing domestic prices, and thus increasing real wages, consumption, output, and employment.	Same as in SIM.1	Same as in SIM.1	...
U.S. trade barriers	Adjusting export volumes in accordance with changes in export prices as a result of removing U.S. post-Tokyo Round tariffs and selected nontariff barriers. This adjustment has the effect of increasing exports to the United States and thus domestic output and employment.	Same as in SIM.1	Same as in SIM.1	...
Canadian and U.S. export subsidies	Not included in the analysis.	Same as in SIM.1	Same as in SIM.1	...

Productivity	...	5 per cent increase in total factor productivity in Canadian manufacturing industries. This adjustment has the effect of reducing domestic prices and thus increasing real wages, consumption, output, and employment.	5 per cent increase in total factor productivity in Canadian manufacturing industries. The increase in productivity is phased in over the period 1987-92. This adjustment has the effect of reducing domestic prices and thus increasing real wages, consumption, output, and employment.	...
Timing	Freer trade starting in 1987 (all trade barriers removed in 1987).	Freer trade starting in 1987 (all trade barriers removed and productivity improvement included in 1987).	Phased removal of trade barriers starting in 1987 (all trade barriers are phased out over the period 1987-92).	Import surcharge in retaliation starting from 1987.
Government revenue	Neutral effect: the revenue shortfall due to the removal of custom duties is offset by increased personal income taxes.	Same as in SIM.1	Same as in SIM.1	...
Import surcharge	...	...	...	20 per cent import surcharge on Canadian manufactured goods, other than autos, entering the United States. (The Wharton base case solution of the U.S. economy with a 20 per cent import surcharge is used.) 20 per cent import surcharge on U.S. manufactured goods, other than autos, entering Canada (Canadian import prices increased by 20 per cent).

Chart 3-1

Impact of Four Canada-U.S. Trade Scenarios on Employment, Canada, 1987-95

Differences from base-case results[1]



1 The base-case solution assumes that there will be no change in trade policy beyond what is currently scheduled.

2 Assumes that the removal of trade barriers will be phased in over the period 1987-92.

SOURCE Economic Council of Canada, CANDIDE Model 3.0, August 1986.

sector.[5] Achieving these gains would, of course, require very substantial new investment, some of it by firms and industries already struggling to achieve a better balance in their debt/equity positions.

To try to take account of the potential gains that occur when firms adapt to new opportunities, we carried out another simulation, in which the level of total factor productivity in the manufacturing industries is raised by 5 per cent above the base-case level, and we added this to the removal of trade barriers. (It should be noted that the assumption of a 5 per cent increase in total factor productivity in manufacturing is a conservative one.[6]) This simulation (SIM.2) produces an overall output gain of 3.6 per cent in the economy by 1995. This increased impetus to growth would be substantial and would benefit all sectors of the economy. Furthermore, inflation would be much lower; and the gain in employment would amount to over 370,000 jobs by 1995. As could be expected, the largest gains in output would occur in the manufacturing sector.

An Alternative Case: Greater Protection

Against these projections it is useful to assess the potential effects on the Canadian economy if the strong protectionist lobbies in the United States should succeed in their efforts. In another simulation (SIM.4), we have assumed that rising U.S. protectionism would result in a 20 per cent import surcharge on most manufactured goods entering the United States and that the trading partners supplying those imports would then retaliate with a similar measure. Thus the trading environment would deteriorate into one of hostility between trading partners, and their respective domestic economies would all suffer in the process. In Canada real growth would be reduced considerably, severely hurting both consumers and investors, as industry adjusts to an increasingly restrictive trading environment. Compared with the base-case solution, the level of employment would lower progressively, the shortfall reaching over 520,000 jobs by 1995 (see Chart 3-1). The Canadian current-account balance would worsen, and the federal fiscal position would weaken considerably because of lower revenues and of the effects of higher inflation on indexed expenditures. Initially, inflation would rise substantially, fueled by the increased cost of imported goods. It is not until later in the period that these inflationary pressures would abate, dampened by high unemployment rates.

Other Possibilities

The foregoing simulations are, in a sense, best- and worst-case projections, within whose parameters a variety of outcomes are possible. Two come quickly to mind. The first is that the Canada-U.S. negotiations may founder for one reason or another. What might be the outcome, then, with respect to growth, employment, inflation, and so on? Assuming that no other pro-active or retaliatory measures follow as a result of the breakdown in negotiations and that Canada-U.S. relationships remain cordial, our projection is identical to the base-case solution of Chapter 2, since it makes no provision for a new Canada-U.S. trade accord nor for new protectionist setbacks to market access on either side of the border.

The second possibility is that an agreement will be struck, with mutual reductions in tariff and nontariff barriers to be phased in over a period of years. This phasing-in process could take many forms, depending on the outcome of the negotiations, the starting level of the barriers to be removed, and the sensitivities of individual industries in both countries. Whatever their form, it can be assumed that the phase-in process would be aimed at cushioning and stretching out the

adjustments that must be made by individuals and firms, at the expense of the stimulus that a "once-and-for-all" barrier elimination might generate economy-wide. To note the possible implications, we developed a further simulation (SIM.3) that effectively reduced all tariff and nontariff barriers by 20 per cent each year over a five-year period beginning in 1987 and stretched out the productivity increases proportionately. It can be seen (in Tables 3-2 and B-4, and Chart 3-1) that changes in all the projected economic parameters would generally be in the same direction as those emerging from the freer-trade scenario without any phasing-in provision (SIM.2). The increase in real output would amount to 3.3 per cent, and the gain in employment would be over 320,000 jobs by 1995.

The job gains (or losses) estimated in these simulations are significant, but it is important to put them into perspective. They are, after all, spread over an eight-year period. In the phased-reduction scenario, the net change in an average year would be in the order of 40,000 additional jobs. This figure is equal to less than 15 per cent of Canada's annual increase in employment and is small in relation to the total movements in the labour market in any given year (see below).

The Multilateral Trade Talks

As indicated earlier, Canada shares a concern with other countries that the global trading system has become more restrictive. Although tariff rates have come down through successive rounds of multilateral trade negotiations under the aegis of the GATT, the imposition of nontariff barriers has increased. Canada, in the current GATT round, will be searching for measures to help restore greater openness and discipline to the existing multilateral trading order. The point will be made, for example, that the GATT rules and discipline apply to temporary import-relief actions and to those subsidies which restrict competition – for example, the use of subsidies in the United States and the European Economic Community to promote grain exports. Moreover, the Tokyo Round Code on Subsidies and Countervailing Duties has not worked well. In addition to its general negotiating objective, Canada has some specific goals for the current GATT round. To enhance trade flows with the rapidly growing, developing countries – and especially the Pacific Rim countries – Canadian negotiators are expected to stress the benefits of removing tariffs and nontariff barriers against agricultural and food products, nonferrous metals, forest products, petrochemical goods, transport and communication equipment, and services.

Negotiating a multilateral agreement on trade in services – an area not now subject to GATT rules – will be a difficult and protracted task. Some of the present GATT rules and procedures – nondiscrimination or most-favoured-nation treatment, transparency rules requiring member countries to disclose trade-distorting policies and to resort to consultation and dispute-settlement procedures when disputes arise, national treatment (whereby imported goods are subject to the same regulations and taxes as domestically produced goods), and the right of establishment – are designed for trade in goods and may not be directly applicable to trade in services. Moreover, some of the most important service sectors that deal internationally – for example, telecommunications or banking – are either government-owned or regulated closely in many countries. The principle of "right of establishment" is very contentious.[7] Establishing multilateral rules is complicated also by the fact that trade in services is closely related to the still unresolved issue of regulating foreign investment and the international migration of labour. Despite those difficulties, there is a large potential for expanding world trade in services, and Canada will be supporting efforts to achieve a general framework agreement within GATT to facilitate and expand such trade.

Once trade barriers are removed or modified, the ultimate impact of the change depends on the skills and the will of Canadians engaged in trade and investment at home and abroad. In pursuing the opportunities for trade expansion, Canada has a rich base of multicultural human resources upon which to draw. In particular, qualified persons from its diverse ethnic minorities, conversant in the various languages of the world, have a role to play in enhancing political and cultural ties, as well as commercial relationships, with the Pacific Rim, Southeast Asia, the Middle East, Latin America, Europe, and other parts of the world.

Trade and Adjustment

The results from our CANDIDE simulations indicate that, over the medium term, after adjustments have taken place, trade liberalization with the United States would benefit Canada by increasing output, real incomes, and employment. But a key question remains: What are the implications of these findings in the way of adjustments that will have to be made by some Canadian communities, businesses, and workers? Behind the calculated employment gains, there will inevitably be some business dislocations and job displacements as the economy undergoes restructuring in response to a new trading environment with the United States. This transitional path is not shown by our simulation results. But we intend to deal with it – and with the issues it gives rise to, including the associated costs of adjustments – in a forthcoming study on Canadian trade-policy options.

The employment and layoff effects of trade liberalization should nonetheless be considered in the context of the dynamics of the Canadian labour market and in the light of past experiences in adjusting to structural developments, such as changes in domestic and external demand, and in technology. In the past, thanks partly to the tariff reductions worked out in the Kennedy and Tokyo Round negotiations, Canada experienced a substantial increase in import competition. Most of those who lost jobs as a result of greater import penetration found new jobs in other firms or industries. Some were helped to retrain, or move, or take early retirement under various manpower training and adjustment programs. And during the transition periods unemployment insurance was available as a source of income support.

The evidence shows that Canadian industry is flexible. Firms are constantly adjusting to competitive changes, and new firms are entering the domestic market as others are exiting or being bought out. Although most markets are dominated by firms offering continuous employment, the flows in and out are substantial. For instance, in the 1981-84 period of severe recession and recovery, during which employment by firms in the manufacturing sector was slimmed by 4 per cent or 76,000 jobs, 10,000 new manufacturing firms were created, while slightly over 8,000 firms disappeared; the new firms, while relatively small in size, hired as many people as disappearing firms laid off. The net job loss resulted from rationalization among firms in continuous activity.[8] In other words, many of the firms that stayed in business over the period 1981-84 were reducing their work force; thus the net job losses resulted from the adaptation of firms, not from their disappearance.

Workers too have demonstrated a strong capacity to adapt. In any given year, for instance, about one-fifth of the working-age population – around 4 million individuals – lose or leave employment, while as many or more find jobs. Recent studies also show that there is considerable interindustry mobility across all industries, and there is also a high degree of mobility between various occupations. After a spell of unemployment, for instance, one worker in two changes his or her occupation or industry.[9]

These factors will determine the ultimate effect of the change in trade barriers: the pace of economic growth, the speed of implementation of the trade deal, and the inherent adaptability of Canadian markets. An examination of the evidence to date gives us every reason to believe that a majority of the workers affected by freer trade can adjust without massive layoffs and that a majority of the firms affected can adapt, without massive dislocations, to an environment of freer trade with the United States.

This is not to deny that there may well be serious difficulties for some workers, especially older workers with seniority and with skills that are no longer in demand or those who are unskilled, have limited years of education, are less mobile across regions, or live in small, one-industry communities with few, if any, viable options at hand. Our current research program is designed to identify the groups of workers and the industrial sectors that are the most vulnerable, and then to offer advice about how to help them deal with the risks they face.

As part of its commitment to the benefits of freer trade, the Canadian government, along with its provincial partners, has a responsibility to those who will need help in adjusting to the new situation. With respect to income support, it is not clear at the time of writing what the Forget Commission will have to say about the unemployment insurance system or about those who become unemployed as a result of freer trade. With respect to alternative jobs and alternative skills, governments may well have to consider restructuring existing manpower, regional, or industrial programs, or designing new, specially targeted measures.

The basic message of our work to date is clear. Canada can go forward and negotiate bilateral and multilateral trade agreements, or it can go backward, accepting the steady erosion of our current access to export markets created by protectionist trade actions. In both cases, there will be stresses and dislocations. The great advantage of moving forward with trade negotiations is that it is a growth-oriented strategy. It is growth, in turn, that will create new opportunities for the people who are forced to look for new jobs, as well as for those who are entering the work force for the first time.

4 The Role of Government

In this chapter, we explore four areas where policy initiatives taken in the 1960s and 1970s require substantial, fundamental reform because those policies are no longer in tune with the times. In effect, the new needs and priorities of citizens are forcing institutional change. In several cases, changes in markets are leading to a reassessment of the role of government at both the federal and provincial levels. In other cases, not only have the needs of Canadians changed, but the patchwork of programs has seen incremental adjustments over time, and this has led in some cases to an erosion of their capacity to meet their original objectives. In the specific case of health care, the changing age structure of the population and the soaring costs of new technologies are forcing alterations in health care delivery.

Within the next few months, the Council will be publishing the detailed results of its investigations into the regulation of financial markets, the taxation of capital income, government enterprise, and the organization of health care. The latter is considered in the broader context of the social concerns of Canadians, which inevitably have economic implications and thus form an integral part of the Council's continuing research mandate. In some of these areas, common themes motivate the drive for reform, and it is those common themes that we discuss in the present chapter.

Indeed, it appears to us that many institutions were set up as part of, or to respond to, the "old industrial" economy. That economy is undergoing rapid change, thus many of these institutions must adapt if they are going to help society to function well.

The current pressure for reform comes as much from the budget dilemma facing governments as it does from concern about the dysfunction in the institutions. The revenue constraint is forcing a serious examination of corporate and sales taxes. The concern about ever-rising spending on health and social programs prompts a careful look at reform. Even the need to re-examine the role of government agencies is seen as a means of curbing their claims on the federal purse.

While the fiscal squeeze has triggered the rethinking, we believe the process of reform offers opportunities for economic gains that go far beyond deficit reduction. Reopening these policy areas creates an opportunity to make new strides towards the long-term efficiency of the Canadian economy. Elimination of the distortions in the tax system would dramatically alter the conditions under which investment and saving take place and would thereby enhance longer-term growth in the economy. Re-regulating financial institutions could create the foundation for a renewed cadre of world-class financial institutions and provide Canadians with access to the most efficient vehicles for saving and investment. Experimentation with new delivery systems for health care could enhance the efficiency of the system and slow the projected rate of increase in health care costs.

The achievement of these efficiency gains is not an end in itself; it is desirable only as a means of enhancing the standard of living of Canadians through qualitative improvements in the work place and in the environment, and through higher rates of growth in employment and incomes.

In addressing the issues in this chapter, we point to the symptoms that call for change rather than prescribe solutions. There are many directions that Canadian society can take, each reflecting the political realities and sensitivities of the day.

One of the complications of adaptation is that vested interests become established around a particular institution and will defend it whatever its defects. Their positions may become even more entrenched if the institution is being challenged in ideological terms. But this does not remove the collective responsibility of governments and citizens alike to re-examine the role or performance of their institutions and, where appropriate, alter their forms. In many cases there may be trade-offs between the old objectives and the new. If this causes some dislocations, then the issue must be addressed with care.

Just as heightened international competition will force domestic adjustments, so some of the reforms being contemplated will create dislocations for the taxpayers or the workers involved. But these dislocations are not an argument against undertaking the reforms. Instead, they are a signal that careful transitional arrangements are required to assist the individuals, families, firms, and communities to readjust.

A final theme that emerges is that the burden of adjustment is actually distributed very widely. Re-regulating financial markets to encourage increased competition will inevitably create winners and losers among the institutions. Changes in the tax system will

bear most heavily on large capital-intensive companies. Changes in social policy will probably impact on almost everyone. Experiments with different modes of health care delivery could involve a wide spectrum of practitioners, nurses, and patients.

Regulation of Financial Institutions

The shift from high inflation and aggressive lending through a severe recession to disinflation and heavy debt loads has taken its toll on Canada's financial markets. Between 1980 and 1984 there were 13 failures of Canadian financial institutions. In addition, there were many mergers and acquisitions involving financial institutions. In 1985 two banks failed, and two merged with other institutions. Five trust and loan companies also failed, as did two general insurance companies. Clearly, the Canadian financial community is being restructured; this reorganization is a symptom of change.

For instance, the barriers separating the so-called core financial functions have weakened. Some institutions have expanded the scope of their operations, overlapping those of others. At the same time, conglomerates and financial holding companies have emerged as an important force on financial markets. As a result, today, one can get car insurance and buy stocks from a bank, open a demand-deposit account at a brokerage house, and invest in mutual funds through a bank, a credit union, a life insurance company, a trust company, an investment dealer, or a financial planner. This process of expansion and overlap has been accompanied not only by a host of corporate mergers but also by special intercorporate arrangements, together with a mixing of financial and nonfinancial activities under one corporate umbrella.

The financial system has become so complex that the regulators themselves have difficulty keeping up with all the changes. Neither regulation by government nor self-regulation by the industry has been able to deal adequately with the corporate failures that occurred in the 1980s. Regulation has not been able to address the commingling of financial and nonfinancial activities; nor has it addressed the emergence of large conglomerates and financial holding companies. Neither has it dealt adequately with instances of self-dealing and abuses because of conflict of interest. What has happened?

Evolution of the Canadian Financial System

The Canadian financial system emerged from the Great Depression with a configuration that is still in place, albeit considerably altered. The core functions (the "pillars") of the financial system – that is, of the banking, insurance, trust, and securities industries – were regulated separately. Banks were involved in banking – mainly they collected short-term funds through demand deposits and provided loans to businesses for the financing of inventory and accounts receivable – and they were subject to federal regulation. Trust and insurance companies were regulated federally or provincially, depending on the jurisdiction of their incorporation. Trust companies were mainly involved in the management of estate and trust funds, including pension funds, although they supplemented this activity somewhat by offering term deposits and providing some mortgage financing (it should be remembered that, originally, trust companies were only allowed to accept deposits in trust, on the condition that interest be paid to depositors). Insurance companies were selling insurance, and securities brokers were selling stocks and bonds. Such a separation of powers was aimed at re-establishing confidence in the financial system following the severe blows it had received in the 1930s. The separation between commercial lending and trust activities, and between banking and securities dealing, was also intended to minimize conflict-of-interest situations.

The operation of the financial system is based on trust. Confidence comes into play at two levels: confidence in fair treatment by financial institutions (consumer protection); and confidence in the safety of these institutions and of the funds entrusted to them (solvency). Consumer protection has always been a great concern, an early example being interest-rate ceilings and, more generally, usury laws to enhance confidence in fair treatment. To ensure the solvency of financial institutions, regulation of investment powers or of lending multiples was put in place. The "pillar" system was aimed at both the safety of the financial system and the avoidance of transactions that might result in unfair treatment.

More recently, since the 1960s, regulation has also been aimed at ensuring competition among financial institutions and increasing the information available to all market participants – both consumers and intermediaries.

The 1967 revision of the federal *Bank Act* was the main catalyst in opening up the financial system to competitive forces. Removal of the statutory interest-rate ceiling enabled the chartered banks to offer more consumer loans; granting banks the power to make conventional mortgage loans signaled the full-scale entry of chartered banks into the mortgage loan market. As a result, competition in consumer and mortgage lending intensified during the 1970s and on into the 1980s. That competition has been reinforced in recent years by dramatic changes in the way that international financial markets function.

This period of fierce competition has modified the relative position of the so-called "pillars." Chartered

banks – the main winners of the 1967 revision of the *Bank Act* – have lost some of their competitive edge in many of their traditional markets. Trust and life insurance companies have also lost some of their traditional niche, particularly in the mortgage and registered retirement fund areas; but they are making inroads in other areas. Caisses populaires are successfully competing in new markets, either directly or through associations with other types of institutions. Securities firms are attempting to enter the deposit market, but their comparatively limited assets make them the most vulnerable of these institutions.

Other important changes in the financial system have begun to unfold; these are eroding some of the distinctions between banks, trust companies, and other institutions. There is a generalized movement towards diversification. Banks, trust companies, life insurance companies, credit unions, and caisses populaires have diversified by increasing the line of services offered and by entering areas outside their traditional domain. Diversification is sometimes effected through the financial-holding-company route, but often by simply offering a new line of services.[1] Examples include the different mortgage instruments available today, the universal life insurance policies, and "junk bonds" (i.e., high-interest-paying debentures, issued mainly for leveraged corporate takeovers, and generally deemed to be high-risk investments).

A host of new financial instruments have emerged. Today, it is becoming more and more difficult to determine what is a mortgage, what is a commercial loan, what is a deposit, and what is an investment in a security. At the same time, distinctions between groups of institutions, based upon the composition of liabilities, are becoming imprecise and ineffective. Trust companies have only limited powers to enter into commercial lending activities, but they can offer loans to businesses secured by real estate and call them mortgage loans. What is the difference between a cash-management account at a securities firm and a deposit in a bank? There is little difference between the short-term deferred annuities offered by life insurance companies and the term deposits offered by a bank or a trust company.

In short, one can identify four main problems with the current "pillar" system of regulating financial institutions. First, existing legislation is out of date. Both the new instruments and the diversification reflect deliberate efforts to circumvent a legislative framework that has not kept pace with recent changes in business practices. Financial holding companies, for example, have emerged to by-pass restrictive regulation on the investment powers of financial institutions. In some cases, such endeavours could have been deemed contrary to the basic intent of the law, but the regulatory authorities have not objected. In the early 1980s the Canadian financial system appeared to be governed by what might be called "regulation by looking the other way" rather than by active interpretation of the law.

Second, there is a federal-provincial regulatory overlap. Many financial institutions fall under both federal and provincial jurisdiction, and there is no uniformity in the standards applied by the various regulatory authorities. For instance, only Quebec, Ontario, Alberta, and British Columbia have reasonably comprehensive regulatory systems covering trust companies and life insurance companies. In some cases, the capacity of the provinces to regulate is also diminishing because they cannot control the movements of funds outside their borders or internationally.

Third, there are province-to-province inconsistencies in regulation. For instance, regulatory practices differ from one province to another with respect to the requirements for incorporation, to licensing, to supervision, and to the powers given regulators to request changes in corporate operations, and so on.

Fourth, rapidly changing developments in international financial markets and in communications technologies are creating pervasive repercussions for Canadian financial institutions and for the functioning of Canadian markets. In the process, the opportunities for hedging and arbitrage have been enlarged, and futures markets and international clearing houses have expanded. This has made such services as round-the-world, cash-management currency swaps and other new options commonplace in some corporate financial strategy. But it also creates problems for the federal and provincial governments in setting regulatory boundaries. Many large Canadian companies and investors now find that institutions based in New York, London, or Tokyo are better placed to meet their financial needs than are their traditional Canadian financial advisers. They can thereby escape Canadian regulation; and Canadian institutions may lose the related business. Thus inappropriate choices in regulatory reform would end up limiting the capacity of Canadian institutions to compete in the global arena.

Reform of the System

The need for reform is widely recognized, witness the array of reports and studies undertaken on this subject and the accompanying public debate:

- In spring 1985, the federal government released a Green Paper on the regulation of financial institutions, as well as the Wyman Report on deposit insurance.
- These were followed by hearings by committees of the House of Commons and the Senate, which

produced the Blenkarn Report and two Senate Committee reports.

- In December 1985, the Ontario government released the report of its Task Force on Financial Institutions, and in June of this year it announced sweeping changes to the regulations governing ownership of securities firms.
- The Estey Commission's report on the failure in 1985 of the Canadian Commercial Bank and the Northland Bank is the latest study bearing on the need for regulatory reform.

All these hearings and reports gave rise to many briefs and submissions by academics, industry representatives, consumer groups, and other interested parties.

Some steps have already been taken. In 1984 Quebec passed a bill constituting a major overhaul of insurance legislation. The Ontario legislature is currently considering a bill to reform the regulation of trust and loan companies. The federal government has introduced partial legislation relating to some regulatory powers and to the transfer of ownership of trust and loan companies. A more comprehensive piece of legislation dealing with the supervision and organization of the financial system is expected in the near future.

All the governments engaged in this process have discovered that regulatory reform is not easy because there are many divergent interests. The various reports came out with different and often contradictory conclusions and recommendations. Quebec and Ontario have adopted differing philosophical approaches in their attempts to reform regulation. Quebec, in the wake of the 1969 Parizeau Report, opted for opening up the financial system and for regulating financial institutions on a function-by-function basis.[2] Ontario chose to extend the powers of financial institutions, while maintaining the existing pillar system and regulating by institution, although the recently announced changes in the securities industry may point to an opening up of the pillar system.[3]

The difficulty is that there are no clear answers for the problems at hand, and trade-offs must be made between the objectives of greater competition and enhanced solvency. One important condition for competition is to have no barriers to entry or exit. In any industry, a number of companies do exit through failures. On the other hand, an attempt to prevent insolvencies by imposing rigid rules and regulations may inhibit many institutions in their efforts to compete. Regulation-induced barriers to information flows (sometimes called Chinese Walls) may contribute to reducing conflicts of interest, but they may also prevent useful information from being shared by all market participants.

Regulatory reform should not deal with only those issues which are currently being debated such as ownership, conflict of interest, self-dealing, solvency, or financial holding companies. The process of regulatory reform should start with a good understanding of the roles of a financial system – the supply of information, the intermediation of funds and risks, the safekeeping of funds, and the maintenance of a payment system. It further requires the recognition that among the conditions for the financial system's efficiency – competition, confidence, information, and accessibility – not all can be achieved simultaneously by the free interplay of market forces. The role of regulation is to steer the system on a preferred course, bearing in mind the continuing dynamics of financial market competition domestically and internationally.

In the process, Canadians will have to redefine their views on what should be the role of governments in regulating financial markets and how responsibilities should be shared among them and among the institutions and individual citizens who are users of the financial system. There is no question of the need for laws and regulations to make contracts enforceable and to prevent or punish fraud and misrepresentation. A strong government presence is essential. But a key issue is whether the willingness of the state to absorb so much of the risk has reduced the pressure on citizens and institutions to take proper account of the risks that go along with any financial transaction. To cite Sir Jeremy Morse:

> . . . the good market is not one in which there are no failures but one in which the failures are few in relation to the economic gains. . . . The small depositor, investor or policy holder is entitled to some protection against the mistakes of financial companies or practitioners, but that is all.[4]

Any approach to regulatory reform should take a global view of the financial system. It is important to realize that changes in the *Bank Act* do affect insurance companies and that changes in trust legislation have implications for banks. Finally, any attempt at regulatory reform should be forward-looking. It should be flexible enough to accommodate, for the next 10 to 20 years, any changes that may occur within the financial system. Above all, it must be aware of the revolution in international financial markets that will alter the nature of financial services over time and bring new players into the marketplace in competition with Canadian firms. This globalization of financial markets will bring both risks and opportunities, and it will quickly erode any regulatory reforms that are not in tune with the times.

Taxation of the Corporate Sector

The federal government has embarked on a long-term program intended to introduce major reforms into

the Canadian tax system. In an effort to establish a more neutral or even-handed corporate tax, it announced in its budget earlier this year plans to phase out the investment tax credit and to gradually reduce statutory corporate tax rates. Other ways and means of achieving a greater degree of tax neutrality are being considered too. The federal government has also been contemplating the possibility of substituting a "business transfer tax" for the present manufacturers' sales tax.

These are timely initiatives. We shall be issuing a comprehensive study in the near future on the effects of various forms of taxation on investment and saving. Here we shall report only on some of our preliminary findings with respect to corporate income and sales taxes.

When one examines the sources of federal government revenues, one is struck by the shifts that have occurred over the years. In 1951, federal revenues from corporate income tax exceeded those from personal income tax. As late as the early 1960s, corporate income tax and sales and excise taxes combined contributed well over half of the federal government's revenues; personal income tax, about 30 per cent. Today the situation has altered dramatically. The share of federal revenues coming from the corporate sector through income tax and sales and excise taxes has dropped to about one-third, and that from personal income taxes has risen to over two-fifths. As a percentage of GNP, personal income tax accounts for 7 per cent; corporate income tax, about 2 per cent; and sales and excise taxes, a bit over 3 per cent. For the corporate sector this represents a very pronounced drop in their relative contribution to the federal government's revenue needs.

Over the years Canada's income tax system has undergone almost continuous change, including changes affecting the taxation of income from capital. To encourage specific types of investment, a variety of tax concessions have become embodied in the tax system.

Effective Marginal Tax Rates

Although the basic federal statutory corporate tax rate is currently 46 per cent, this rate is reduced by 10 percentage points to allow room for provinces to levy their own corporate taxes at different rates. Reductions in both federal and provincial corporate tax rates are then permitted for firms engaged in manufacturing and processing, as well as for small businesses. As a result, the average statutory corporate tax rate varies considerably among industries.

The effective corporate tax rates on new investments, however, are well below the statutory rates for several reasons. First, accelerated depreciation allowances enable firms to write off their investments for tax purposes long before the end of their useful lives. Manufacturing and processing machinery, for example, can be written off in only three years. The tax lives of buildings and inventories, on the other hand, correspond more closely to their economic lives; investments in buildings are further penalized in that they bear a disproportionate burden of business property taxes, which also vary between industries and locations. Second, investment tax credits, although about to be phased out, have been available for new investments of specific types, at rates that vary by region. In addition, variations among firms and industries arise because interest paid on corporate debt is treated as a business expense and is therefore tax-deductible, whereas the costs of equity finance are not deductible.

The tax advantage for investment financed by debt, as opposed to that financed by equity, increases with inflation. In effect, with rising inflation, the corporate tax system enables borrowers to deduct part of the loan principal outstanding, as well as real interest expenses. This phenomenon undoubtedly contributed to the very heavy reliance of Canadian firms on debt financing through the late 1970s and early 1980s. It also helps to explain their subsequent financial difficulties and the very high and unfavourable debt/equity ratios that many firms in the manufacturing and resource sectors still carry.

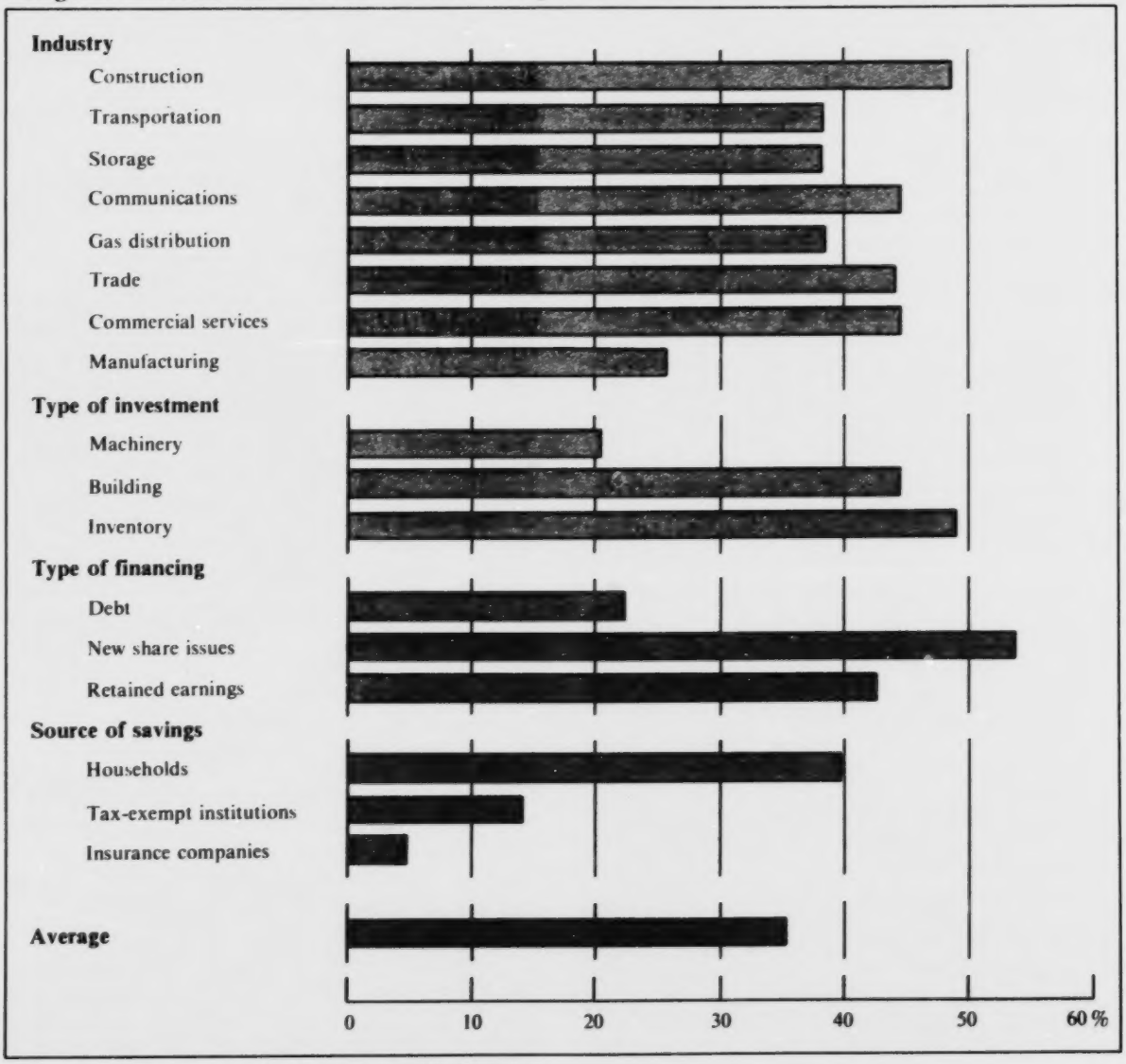
We have compared effective marginal tax rates on capital income (that is, the tax that an individual investor would pay on the income earned from his last dollar of investment) across a number of manufacturing and nonmanufacturing industries, taking into account various capital taxes. Effective marginal tax rates are indicative of the overall impact of the tax system on the incentive to undertake different investment projects. According to our calculations, effective marginal tax rates vary enormously, depending not just on the industry where the investment takes place but also on whether the investment was in machinery, buildings, or inventories; whether it was financed by debt, new share issues, or retained earnings; and whether the investor was a household, a tax-exempt institution, or an insurance company.

For example, as shown in Chart 4-1, when corporation, property, sales, and personal taxes are all taken into account, income from investments in the construction industry is taxed most heavily, while manufacturing is taxed the least. Income from investments in machinery is taxed far less than income from investments in buildings, which in turn is taxed less than income from investments in inventories.[5] Income from investments financed by debt receives much more

favourable tax treatment than income from investments financed by retained earnings, and the latter is treated more favourably than income from investments financed by new share issues.[6] Finally, investments financed by savings provided by households directly to corporations are taxed a great deal more than those financed by savings channeled indirectly to corporations through tax-exempt institutions such as pension funds or through insurance companies. Income from corporate investments financed with savings channeled through life insurance companies actually receives a slight subsidy.

Chart 4-1

Marginal Effective Rates of Taxation on Corporate Investment Income, Canada, 1986



SOURCE Based on estimates by the Economic Council of Canada.

Most of the foregoing lack of uniformity in the effective marginal tax rates on new investments can be attributed to incentives and deductions embodied in the corporate tax system.[7] High statutory corporate tax rates accentuate the variation in effective marginal tax rates by increasing the value of depreciation allowances and of other deductions.

Not only have these tax allowances, credits, and deductions created distortions, but they have also reduced tax revenues. Indeed, in almost half the manufacturing industries examined, as well as for the manufacturing sector as a whole, the application of the corporate tax system may have actually subsidized new investment.[8]

Large differences in marginal effective tax rates on new investment projects have obvious implications for output and income. We do not come out ahead if investments that are "losers" on the basis of business judgment are promoted into "winners" by the tax system. Viewed another way, the productivity of the capital stock in the economy is lowered and, with it, output and income levels.

In considering additional tax reforms, the federal government has various options. Abolishing the investment tax credit was a first step in achieving tax neutrality. Basing capital cost allowances on true economic depreciation at replacement cost would be another. These two changes would increase the amount of corporate income subject to tax and would then allow for a reduction in the statutory corporate tax rate across the board. Economically this would be preferable, because a comprehensive income tax broadly based with few exemptions or deductions would be less discriminatory and more efficient than the current system. A neutral corporate tax would also be levied on real (i.e., inflation-adjusted) rather than nominal income and would not differentiate among assets or industries.

The corporate tax is levied on profits. An alternative system could use corporate cash flow as the tax base, as was suggested by the Macdonald Commission.[9] Under such a system, while interest costs would not be deductible from taxable income, all capital expenditures would be deductible as investments are undertaken. Hence there would be no need to impute financing or depreciation costs during the lifetime of an investment. Nor would there be any need to correct for inflation. Although this type of tax on cash flow is potentially both simpler and easier to administer, it could have some potential drawbacks. The main one is that the introduction of such a very different form of corporate tax could lead to problems in reconciling the tax system with that of our principal trading partners. Notwithstanding this and other problems associated with a cash-flow corporate tax, we believe the idea warrants careful study.

Federal Sales and Excise Taxes

Next to the personal income tax, the most important source of federal revenue – greater than the corporate income tax – is sales and excise taxes. The most important of these indirect taxes is the manufacturers' sales tax. It too is a highly flawed tax because it is applied unevenly. It covers capital goods and intermediate inputs, as well as final outputs, and its rate structure is highly variable across both products and industries. In addition, the tax raises the cost of exports.

As such, therefore, the manufacturers' sales tax is a prime candidate for tax reform. The federal government is currently considering the possibility of replacing it with a "business transfer tax" (BTT), roughly similar to the widely used European value-added tax (VAT). A BTT would effectively tax each element of final value to a consumer as the product passes through various stages of production and distribution. Although inputs to the production process would be exempted, by taxing services as well as goods, the tax base would be wider and the tax rate presumably lower.

Any tax, to be economically efficient, should be as neutral or as even-handed as possible in its application. This suggests, therefore, that the BTT should be levied at a flat rate so as to leave relative prices undisturbed. This would distinguish it, for instance, from the European system, where higher rates apply on luxury goods.

Over the long haul, the introduction of a federal BTT is likely to call for compensating changes in other tax measures. Its introduction, for instance, could exacerbate the bias in favour of investments in machinery and equipment inherent in the corporate tax. Moreover, it will not deal with the problem of provincial sales tax on capital goods and inputs in the production process. A further problem with BTT is its impact outside central Canada because of higher transportation costs, especially where goods go through various stages of shipment and handling.

Finally, it is important to note that BTT would be regressive, hitting lower-income groups, at any point in time, disproportionately more than the wealthy. Thus, while various programs now exist to transfer benefits to low-income groups, this particular form of tax reform ought not to be looked at in isolation. Its introduction might, for example, have to be coupled with tax credit initiatives in order to maintain perceived fairness and thus command popular support.

The Challenge of Tax Reform

Tax reform is politically difficult. Any change in the rules causes upheavals for some taxpayers (corporations or individuals), who are always vocal in response. Tax reform is also technically difficult. Nevertheless, there are at least two strong reasons for Canada pushing ahead with reform.

First, our research shows that the combined effect of all the amendments of the past 15 years has been to create a system that is capricious in its impacts. A key element in our drive for efficiency must include the creation of a tax system that is more neutral, so that investment decisions are based on the true economics of a project, not on the vagaries of the tax system.

Second, the tax-reform debate in the United States provides both an incentive and an example. Release of the U.S. Treasury's report in November 1984 prompted widespread debate concerning tax reform, with alternative plans being proposed by President Reagan and both the House of Representatives and the Senate involving trade-offs of tax preferences for lower tax rates. Under the compromise Senate/House of Representatives plan, which is currently being debated, the top corporate tax rate would be cut from 46 to 34 per cent, with an even lower rate for small businesses. Many of the corporate tax deductions would be eliminated or reduced. Furthermore, the top personal income tax rate would be cut from the current level of 50 per cent to only 28 per cent, while the vast majority of taxpayers would be subject to a rate of 15 per cent. On the other hand, capital gains would no longer receive preferential tax treatment.

The appeal of such a tax package is threefold. First, it would make great strides in the direction of simplifying the tax system. Second, while the elimination of tax preferences would hurt the few, the rate reductions would help the majority of corporations or individuals who pay taxes on all or part of their income. As a result, individuals and businesses with the same income would pay similar, if not equal, amounts of taxes and thus the equity of the tax system would be improved. Third, the appalling economic distortions created by the present tax system would be greatly reduced.

The progress on tax reform in the United States creates a greater incentive than ever for Canada to get its tax system in order. At the time of writing, it was not clear whether the U.S. proposal would work for or against Canadian interests. In general, however, the U.S. move towards tax neutrality makes sense. Tax neutrality means that investors and others can make their choices on the basis of what is genuinely the most profitable or efficient course, instead of being guided by after-tax considerations where taxes are unevenly applied. Our analysis of Canadian corporate, property, sales, and personal taxes leads us to believe that the country would benefit from a system that did not discriminate among industries and types of investments. In short, Canada must aim for a more neutral tax system.

Social Policy

The Council has not had an opportunity to review the full gamut of social policies in Canada, although from time to time in the past we have offered suggestions on one or more of them. At the time of writing, the report of the Forget Commission on the unemployment insurance system is awaiting publication, and as a consequence we do not formulate any proposals regarding the system in this Review. Nevertheless we do have some views on some of these matters.

In his budget speech of February 1986, the Minister of Finance indicated that in the next budget (slated for February 1987) he would be putting forward new measures to reform the social-expenditures system and related fiscal arrangements. According to the budget, these measures would respect four fundamental principles:

- to maintain universal access to benefits;
- to allocate increased resources to those in greatest need;
- to improve opportunities for achieving self-sufficiency; and
- to reduce after-tax benefits to high-income Canadians with no need of assistance.

These principles have been greeted by a mixture of concern and gritty determination by a number of interest groups. Some take the view that the social security system is fundamentally sound, needing only modest improvements to meet the needs of Canadians in the years ahead. Others believe that the system has become too large a drain on the public purse. The Council is sensitive to both of these views but believes that the real challenge facing the federal government is to adjust the federal aspects of the social security system to the changing needs of a population that is undergoing an accelerating process of adaptation. The aging of Canada's population and the changing industrial structure will mean whole new challenges for social policy. At the same time, the advent of the computer is altering the scope for using the tax system as a means of delivering benefits to families and individuals.

Canada's social safety net is based on four main delivery mechanisms, two of which are based, in turn, on a universal entitlement principle. These provide a first line of defence for people experiencing economic setback. They are:

- Demogrants directed to identifiable demographic categories (Old Age Security, family allowance) and

tax exemptions for children and for people over the age of 65. These grants and exemptions are now being challenged because they deliver substantial benefits to middle- and upper-income groups.

- Contributory entitlement programs (unemployment insurance, the Canada/Quebec pension plans, workmen's compensation, and hospital and medical care). These programs are intended to stabilize income during periods of adversity – unemployment, injury, or illness.

The other two are more selective, being aimed at helping people who are poor and inadequately served by the first line of defence. They are:

- Direct assistance for the poor, which is usually income-tested (the Canada Assistance Program, the Guaranteed Income Supplement, and selected programs such as social housing). While the GIS is an efficient and important adjunct to the Old Age Security system, some of the other income-tested programs have complex administrative difficulties and are financially under siege. The number of poor Canadians has increased dramatically since 1981. More and more people are suffering from extended periods of employment instability and have exhausted their unemployment insurance benefits. More and more women are being left on their own with children to support (Table 4-1).

- Personal income tax credits associated with income or family circumstances. Tax credits have become established as an effective, stigma-free means of delivering benefits to Canadians in need.

The Pressures for Reform

There is now considerable pressure on the federal government to reform social policy. The onus, of course, is not on the federal government alone. With budget squeezing at all levels, provincial governments are looking for more cost-effective ways to meet their social responsibilities. But, in the last analysis, it is the federal government that must confront the broad national dimensions of social concern, and in this regard it must acknowledge certain ineluctable facts.

For instance, it is clear that however strongly the economy has performed there are still deeply worrisome numbers of unemployed, concentrated in particular areas and regions of Canada. Many of Canada's basic entitlement programs – unemployment insurance, hospital and medical care in some provinces, and the Canada/Quebec pension programs – are based on payroll deductions. But with high and persistent unemployment, people are exhausting their rights and having to turn to social assistance.

The work ethic is still very strong. People need jobs to earn income and maintain their self-esteem, and to build up their contributory public and private entitlements. Yet many of the new jobs emerging offer limited tenure or career-building opportunities.

Even as average unemployment rates fall over the next decade, the number of people changing jobs is likely to increase, as industries and firms adapt to their economic environment. The strains will be especially severe for young people who have trouble getting their foot on the ladder of career advancement and for older workers who have trouble adapting.

Table 4-1

Low-Income Families,[1] Canada, 1980-84

	1980	1981	1982	1983	1984
			(Thousands)		
Total number of families	6,088	6,418	6,556	6,598	6,722
Low-income families					
– Number	745	768	869	924	972
			(Per cent)		
– Proportion of total	12.2	12.0	13.3	14.0	14.5
			(Thousands)		
Low-income families headed by women					
– Number	237	230	266	274	295
			(Per cent)		
– Proportion of total	3.9	3.6	4.1	4.2	4.4

1 Figures based on the 1978 definition of low-income cut-offs.
SOURCE Statistics Canada, *Income Distributions by Size in Canada*, Cat. No. 13-207, 1981-84.

The aging of the Canadian population is also putting more strain on the social system. Already OAS/GIS and CPP/QPP expenditures are rising faster than GDP, and they are projected to continue to do so. So, too, are health care expenditures.

And however strong the work ethic may be, recent studies, such as the Quebec White Paper, have documented the negative work-incentive effects of some of the present, selective income-tested programs – social assistance, in particular.

For many people, particularly those living in what were once thriving communities centred in a rural resource-based economy, or for those whose skills are undeveloped or outmoded, the result is a vicious circle of demeaning insecurity. We are concerned that our social programs are not providing assistance to all who need it. We are also concerned that the system may have undesirable effects on the country's economic performance because of weaknesses in both the funding and the delivery of programs.

Social transfer payments, such as unemployment insurance or welfare, require the levy of large sums of money from the economy. Some programs are financed by payroll taxes; others are funded through the general revenue fund, by direct and indirect taxes. In either case, the levies introduce some form of distortion in the economy. Payroll taxes raise the cost of labour and tend to work against employment creation, while taxes on income tend to discourage savings and investment. Finding the mix of funding that will keep distortions to a minimum is a considerable challenge.

On the expenditure side, there is the question of whether the current mix of universal programs with others that are income-tested is the most appropriate in terms of individual needs. Universal programs often involve larger direct costs because benefits flow, in part, to high-income individuals or households. But income-tested programs have the inherent disadvantage of lowering the incentives for individuals to achieve economic independence. Under an income-tested program, increases in earned income are necessarily offset by a reduction in benefits, whether they be welfare payments, low-cost housing, child tax credits, or day-care allowances. In some cases, the tax-back rate is actually 100 per cent; this is clearly a disincentive to earning more income.

Some Guidelines for Change

Reforms to social programs are extremely sensitive politically, since they bear directly on the incomes and well-being of persons most vulnerable and most in need. Many of the recipients have no alternative means of support because of their age or chronic disability. In considering changes, therefore, we believe the government should be guided by four considerations – namely:

- Any process of reform should be comprehensive, embracing all the tax and transfer programs targeted to a particular group. For example, there is a group of programs that deliver help to elderly people, another group for families, and so on (Table 4-2). These groups of programs cut across jurisdictions (federal, provincial, and local), as well as across delivery mechanisms (taxes and transfers).

- The program reforms will have to allow for the diverse needs of Canadians. This suggests that we should not try to solve all our problems by grouping programs into one or two major omnibus systems. Rather, reform should aim to restructure – in some cases, consolidate – the overlapping programs of the federal and provincial governments.

- If we are to go ahead with a significant reform of the social safety net, it will be essential to gain the trust of the people who will be affected by the change in programs. In order to generate a broad consensus that the package is aimed in the right direction, large reductions in expenditures in the first few years of the program should be avoided. A more efficient and responsive system should lead to considerable savings over the longer term.

- The best social program of all is a healthy and vigorous national, regional, and local economy. A return to relatively full employment would not only generate a "growth dividend" from which the poor and disabled should benefit but measurably reduce the numbers in need.

The requirements over the next decade will be for an economy that is flexible and capable of adjusting to the changing patterns of world demands. Therefore it is our view that, to the extent possible, social policy should be designed (or redesigned) so as to ensure that the various programs will accommodate rather than inhibit the needed adjustment. This may call for greater emphasis on efficiency, decentralization, and private-sector input into the design and financing of the social programs. It may also call for flexibility and innovation in those areas of social policy that are experiencing rapid expenditure growth.

Reform will not be easy. It must be carried out with sensitivity, care, and a spirit of co-operation and concern by all participating governments.

Finally, we wish to state clearly that the need for deficit reduction should not be the determining factor

Table 4-2

Estimates of Government Social Security Programs in Canada, 1984-85

Target group	Cost estimates		Number of beneficiaries
	Federal	Provincial	
	($ billions)		(Thousands)
The poor:			
Canada Assistance Plan	4.1	4.1	3,000
Provincial tax credits	...	1.6	107
Veterans' allowance	0.5	...	..
Social assistance to on-reserve Indians	0.2	..	..
Guaranteed income supplement and spouse's allowance	3.1	...	1,440
Child tax credit	1.1	...	5,000
Social housing	1.1	..	..
Total	10.1	5.7	...
Families:			
Child care expense deduction	0.1		370
Family allowance	2.4	...	370
Child tax exemption	0.9	0.5	6,600
Married and equivalent-to-married exemptions	1.4	0.6	3,230
Total	4.8	1.1	...
Employment assistance:			
Unemployment insurance	11.6	...	3,200
Training allowance	0.1	0.1	64
Workers' compensation	...	1.6	620
Employment expense deduction	0.8	0.4	..
Total	12.5	2.1	...
Senior citizens:			
Canada/Quebec Pension Plans	4.4[1]	1.6	2,330
Old Age Security	8.3	...	2,700
Tax assistance (RRSP, RPP, C/QPP)	4.7	2.3	..
Age exemption	0.3	0.2	..
Pension deduction	0.1	...	903
Veterans' pensions	0.7	...	655
Total	18.5	4.1	...
Total income security	45.9	13.0	...
Total Canada	61.6		

1 Canada Pension plan only.

SOURCE Royal Commission on the Economic Union and Development Prospects for Canada, *Report*, Volume 2 (Ottawa: Supply and Services Canada, 1985), p. 772.

in the current review of social policy. There is certainly scope for improvement in the efficiency with which some social benefits are delivered to Canadians, and there are potential efficiency gains from changes in funding. The primary motivation for change at this time is to tune the system to make it sensitive to the changing needs of citizens. In effect, social programs provide protection against any unfortunate side effects from deficit-reduction measures and from other unfavourable economic developments.

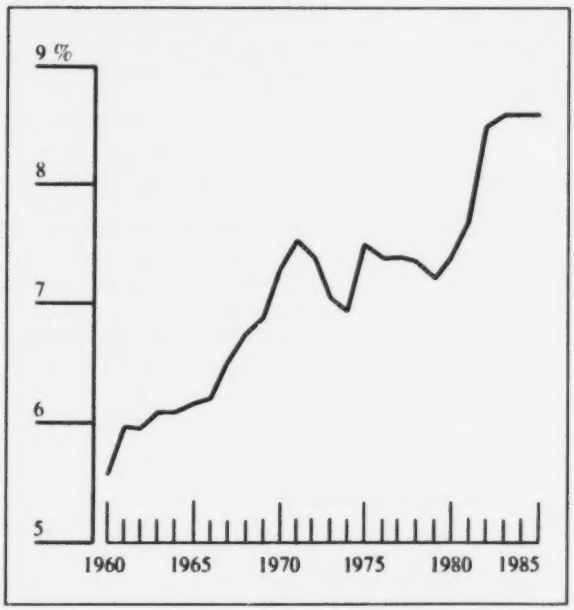
Health Care

All Canadians are insured under federal-provincial programs designed to provide health care, irrespective of income or province of residence.[10] The programs have been successful: they are well established in all provinces; they are popular with the public; and they help to protect the elderly from the worrisome burden of chronic illness without care, depletion of financial resources, and death in poverty.

Over the past two decades Canada's health expenditures have risen more than tenfold – from $2.1 billion in 1960 to $22 billion in 1980, and to over $35 billion in 1985. Canada's GNP has risen as well, but health expenditures grew more rapidly than GNP during the 1960s, expanded at about the same rate as GNP during the 1970s, and advanced more rapidly again during the early 1980s (Chart 4-2). Slow economic growth, limited tax revenues, and rising budget deficits have led to renewed concerns among governments about cost control of health care programs.

Chart 4-2

Health Expenditures as a Proportion of GNP, Canada, 1960-85[1]



1 The estimates for 1983-85 are preliminary.
Source Based on data from Health and Welfare Canada.

We noted earlier the pressure that Canada's aging population is putting on social programs. Today some 2.5 million Canadians have reached retirement age (65 years and over); by the year 2026 that number will be around 6 million. The trend poses a major challenge, since government health expenditures per pensioner are two to three times as great as for the young or middle-aged. Questions arise as to how much the growth of Canada's aging population by itself will add to health care costs and how much the new medical technology used in treating their illnesses and disabilities will cost. This leads us to discuss how the health care system might be changed to provide better care without significant, additional upward pressure on total health-care budgets.

Overview

Since 1975 almost all OECD countries have trimmed the rate of growth of real public health expenditures; this is true of those offering complete public coverage (e.g., the Netherlands, Sweden, and the United Kingdom), as well as the more privatized (e.g., the United States and Austria) – see Chart 4-3. Canada has managed to keep the proportion of gross domestic product going to health care from rising as fast as it did in six of 15 OECD countries. Canada is admired in international circles because it was the first to perfect a payment system that effectively controls costs by introducing global budgets for publicly funded health expenditures on a year-by-year basis.[11]

In 1986, the federal government introduced Bill C-96, an Act to reduce federal transfers to the provinces with respect to Established Programs Financing (EPF). In the name of deficit reduction, the federal government withdrew some of its support for the health care system and for higher education – a reduction that could reach $2 billion by 1990 – and thus tightened by one more notch the pressure of restraint on health and education budgets.

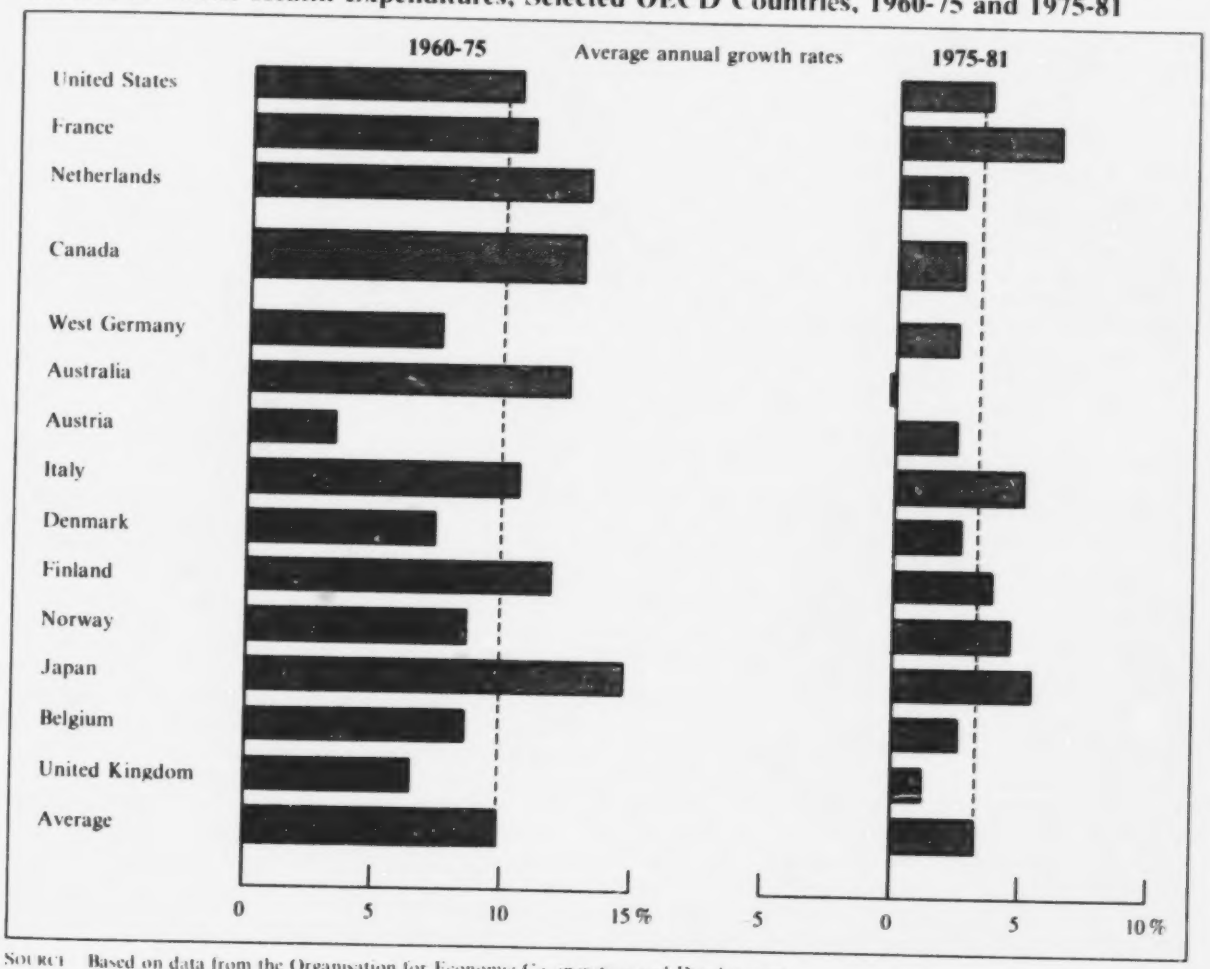
We believe that the new financial pressure on the health care system hastens the day of reckoning for health providers and administrators. The provinces will now have to decide whether to transfer new financial resources into health care (at the expense of higher taxes or reduced spending in other areas), to reduce services in the health care sector, or to identify and implement more-efficient delivery systems. We would argue for the third option.

The decision to cut federal support for health care and higher education is a reallocation of federal resources. This, the federal government has the right to do, but the provinces in turn are quite right in arguing that it is changing the rules of the game.

The analysis that follows demonstrates that it is essential for the health care system in Canada to become more efficiency-conscious, before it is hit by the demographic wave that lies ahead. Health care in Canada is being managed by holding the lid on total expenditure. It is time to begin managing rationally in order to make better use of the financial resources that are available. We believe the way to gear up for the higher requirements that will exist over the longer term is to begin to experiment with new modes of health care delivery.

Chart 4-3

Growth of Public Health Expenditures, Selected OECD Countries, 1960-75 and 1975-81



SOURCE Based on data from the Organisation for Economic Co-operation and Development.

Aging and the Demand for Health Care Services

The vast majority of the elderly are not in need of care and are able to look after themselves without help from relatives or health and social services. Nonetheless, the incidence of disability increases significantly after the age of 60, and the degree of incapacity increases rapidly beyond the age of 70.

While the most severe destitution has disappeared as a result of old-age security programs, medicare, and accumulated private savings, many elderly people – particularly women in advanced old age – still experience poverty, poor diet, inferior housing, and lack of social interchange. The exact impact of this deprivation has not been assessed, but it is known that coronary heart disease, many cancers, incontinence, and depression are linked, to some extent, with adverse environmental and social causes.

There remain many unresolved questions about what aging *per se* has to do with the consumption of health resources. At any point in time only a small segment of the older population is undergoing treatment. According to a recent Manitoba study, about 20 per cent of the elderly are hospitalized in any given year, and a

much smaller proportion – only 5 per cent – consume about 60 per cent of the hospital days used by all elderly persons in a year. Among the very elderly patients aged 85 and over, 4 per cent account for 32 per cent of the total hospital days. In the year before death, hospital use roughly triples.

In the past, the rise in hospital costs from aging was offset by the decline in birth rates and shorter stays of younger hospital patients. But in future the potential for birth rates to continue to decline or for the hospital stays of younger age groups to be further shortened are limited. Hence the volume of hospital services – and thus real hospital expenditures – is likely to expand more rapidly as Canada's population continues to age. The financial problem is compounded by the fact that health care technology is prolonging life and easing pain by providing more and more intensive care at higher cost.

Advances in Medical Technology

Since 1950 there has been an explosion of medical knowledge. Imaging devices such as "computer axial tomography" (CAT) scanners and "nuclear magnetic resonance imaging" (MRI) are now common in hospital departments of radiology. Intensive care has improved so much that the older, very sick, and frail patients can survive radical surgery. Transplants are routine; and machines are being developed that can take over the functions of failing body organs. Patients can be kept alive almost indefinitely.

The great success of vaccines during the first half of this century and the antibiotics of the postwar period have fostered an optimistic faith that has made it difficult to question the value of medical technology. Experts in the field, however, maintain that some of the recent technologies that have come into widespread use have been shown to have only limited benefit; others have resulted in life extension beyond the stage of conscious existence. And many are very expensive.

In matters of life and death, there never seems to be enough resources; clearly, the rationing of modern medical technology calls for difficult choices. The assessment of medical technology is a new field. The greatest problem, perhaps, is that many assessments have been done long after the technology has been introduced. The evaluations were aimed mainly at the efficacy and safety of the medical procedure and dealt less with the ultimate costs and benefits. Evaluation of the latter is always difficult because it can mean putting an explicit dollar value on the lives of human beings of differing ages, skills, and family circumstances. We believe it is the medical practitioners and experts in the field who are in the best position to make judgments about when to use the new technologies. Their choices should be informed, however, by careful assessments of advancements not only in diagnostic and clinical technology, but also in pharmaceuticals, nutrition, and health promotion, and they should be shaped by a greater awareness of the need to ration resources.

Planning for Cost Control

The health care sector faces a critical future, as the cost of meeting the demand for services rises and the ability of governments to finance care diminishes. In our view the way to deal with this is to build on strength rather than undermine it. Canada should therefore encourage experimentation with different systems of delivery and cost-control methods in controlled situations.

One problem is that the natural instinct of medical practitioners is for more intensive-care services. Since in Canada, as elsewhere, by far the largest share of health expenditures is attributable to hospitals and physicians, it is important that the reimbursement systems give the right incentive signals. The problems today stem from the fact that, apart from global budgetary restraints, there are no incentives within the system to use resources wisely – no incentives for patients at the point of care, for physicians in referring patients to hospitals, or for the development of cost-reducing technologies.

As a result of these shortcomings, new treatment-oriented hospital accounting systems and payment schedules that provide incentive for more cost-effective management are being seriously considered in some parts of Canada. They are based on the fee schedules of diagnosis-related groups (DRGs) of services currently being introduced in the United States.

Under the DRG system, payments are based on national or regional averages of treatment costs per patient. If the actual cost to a hospital is less, it keeps the difference; if the cost is more, the hospital suffers a loss. Advocates believe that because hospitals are allowed to retain any savings, they have a strong incentive to work with physicians in minimizing treatment costs. Critics of the DRG system claim that it has a fundamental flaw: it is aimed at controlling the cost of hospital treatments but not the number of hospital admissions.

Another avenue of experimentation is the provision of community clinics. The expectation is that these could provide accessible and regular treatment for patients at less cost than equivalent hospital services. The fact that such clinics, known as health maintenance organizations (HMOs), are fairly popular in the United States is another point of interest. For an annual fee, they provide physician services on a prepaid basis. By early diagnosis and better preventive

health care, they may even be successful in reducing unnecessary hospitalization.

In Canada there are some profit and nonprofit clinics that provide physician services and substitute for outpatient hospital care. Payments for these are covered under Medicare. Although there are reported savings in some cases, studies of community health clinics have not provided clear evidence that cost reductions arising from reduced hospital use are universal.

There has been some experimentation in Canada as well with private hospital management, in the expectation that it might provide better care at lower costs. Initial results appear to be favourable. Some U.S. studies of private hospitals, however, show almost the reverse situation.[12] The cost of caring for the average patient at for-profit hospitals in the United States is estimated to be at least 2 per cent higher – and the cost of extra services, 24 per cent higher – than at nonprofit hospitals. Private hospitals in the United States obtain a good part of their revenues by performing extra services, charging higher prices, and collecting bills more aggressively. They give less than equal access to the poor. Only about 3 per cent of private hospital revenues come from needy patients, compared with 11 per cent in city- and state-owned public hospitals.

Other proposals for improving the Canadian system include:

- imposing tighter control on hospital expenditures;
- limiting the number of hospital beds;
- limiting the number of physicians;
- substituting nursing-home care for acute hospital care;
- replacing nursing-home care by home care;
- having nurse practitioners compete with physicians where appropriate;
- improving the efficiency and effectiveness of existing health services;
- modifying fee schedules to guide utilization rates;
- integrating formal and informal health care; and, finally,
- encouraging health care maintenance and preventive care.

Some of these alternatives are already being tested within the bounds of the existing system of cost control – the global health expenditure budget.

There is, at present, no compelling evidence as to which of the various other cost-control measures will actually prove effective in containing hospital costs. Provincial governments and health care administrators must therefore continue actively to foster controlled experimentation, always mindful that accessibility and the quality of care remain of paramount concern.

Conclusion

When economists speak about adaptation, they usually refer to changes in the industrial sector. This chapter has focused on the need for adaptation on the part of four different kinds of institutional arrangements that set the framework for industrial activity and that define some of the key elements of the Canadian social fabric. As we have pointed out, the institutions that Canada pieced together so carefully in the 1960s and 1970s no longer meet the full range of public needs. In many cases, they impair economic performance because they box people into old ways of thinking and doing. The challenge of rethinking is addressed to all: citizens and corporations, as well as federal, provincial, and even local governments. Our purpose here is to help a wider audience of Canadians to understand the need for change, in the hope that their improved understanding will help governments to move ahead with the process of adaptation. But above all, we want to reaffirm that, while the objective is often cited as being deficit reduction, the fundamental problems go much deeper. They are a reflection of a myriad of changes in technology, age structure, and international competition.

5 Managing the Resource Base

The resource sector has been a vital engine of growth in the Canadian economy since its beginning. Minerals, forests, and agricultural land were the "treasure" that attracted people and capital to Canada in the first place, and more recently to the country's West and North. The output from the country's mines and oil fields, waters, sawmills, and farms has generated a high proportion of Canada's wealth and still accounts for 15 per cent of our exports. As recently as 1981, federal economic development policy was based on megaprojects on the frontier.

Today, far from being a locomotive of growth, the resource sector is acting as a brake. The emphasis has shifted to damage control. Prices have slumped badly – to the point where many enterprises have been forced to cut production to curb their losses. The brake on growth is most evident in the four western provinces. Indeed, the coincidence of declining grain, oil, and potash prices will likely lead to a drop in Saskatchewan's nominal income this year, even though real output is increasing.

Our focus in this chapter is on three aspects of the "new realities" of Canada's resource wealth: energy; agriculture; and more general environmental issues. The fate of the first two is subject to the vicissitudes of world market conditions, while the quality of the environment is subject to the political will of citizens and governments in Canada and abroad. All three areas must be managed carefully to enhance Canada's growth in the future, to minimize the hardships created by the current imbalances in world markets, and to reduce environmental damage and the subsequent costs of environmental reclamation.

The Energy Scene[1]

The precipitous decline in oil prices earlier this year to the US$10-$15 range has been almost as destabilizing as the run-up in prices during the 1970s. Overall, the impact is positive for economic growth worldwide, but those nations and regions highly dependent on oil industry activity are suffering hardship.

The OPEC countries still hold a major share of total world oil reserves – 68 per cent in 1984 compared with 67 per cent in 1973. And Saudi Arabia continues to have the power, given its productive capacity, to strongly influence the market. If prices were to remain in the US$10-$15 range for an extended period of time, the world demand for oil would rebound; new supply developments would be curtailed; and pressure on OPEC capacity would force prices to rise again. Thus, while no one can be sure of the path of oil prices, it does appear that the low price in effect today will not be sustainable over the next decade or so. Some experienced analysts believe that longer-term supply and demand forces will result in prices settling at about US$25 (in 1985 dollars), or possibly somewhat higher, in the mid-1990s.[2]

Declining oil prices will inevitably impact on other energy sectors, with both positive and negative consequences. There is, in the industrial sector worldwide, unutilized oil-fired capacity that would, if employed, consume approximately 10 million barrels of oil per day.[3] With the price of oil at current levels, some of this capacity will be harnessed at the expense of other fuels. Coal prices, which have been soft because of worldwide excess coal capacity, will be further weakened.

Since oil and coal are inputs to electricity production, electricity costs can also be expected to fall. The effect will be much more important for the United States than for Canada because of that nation's much greater dependence on coal and oil for generation purposes. Historically, the demand for electricity has grown more strongly when oil and gas prices have been low and when economic growth has been strong, and this pattern is likely to be repeated.

The Structure of the Oil and Gas Industry

Table 5-1 provides some measure of the importance of the oil and gas sector in the five provinces in which the upstream industry[4] is well represented. Investment in that sector as a proportion of provincial gross domestic product has been particularly high in Newfoundland (13 per cent) and somewhat less, yet still significant, in Nova Scotia (about 6 per cent) and Alberta (about 7 to 8 per cent). The oil and gas sector accounted for a healthy 26 per cent of Alberta's GDP in 1983 and for 44 per cent of the provincial government's revenues in 1984. Production was also important to Saskatchewan's economy, accounting for 6.5 per cent of its GDP and 22 per cent of its provincial revenues.

Table 5-1

Indicators of Activity in the Oil and Gas Sector, Canada, Producing Provinces, 1983-85

	Newfoundland	Nova Scotia	Saskatchewan	Alberta	British Columbia
			(Per cent)		
Capital expenditures at factor cost, as a proportion of provincial GDP					
1984	13.9	6.7	3.2	6.8	0.4
1985	12.4	5.4	4.2	8.1	0.5
Current-dollar GDP at factor cost, as a proportion of provincial GDP					
1983	..	..	6.5	25.8	1.4
Gross revenues,[1] as a proportion of provincial revenues					
1984	..	1.0	21.8	44.4	3.7

1 For the 1984/85 fiscal year.

SOURCE Statistics Canada, unpublished data; Statistics Canada, *Provincial Economic Accounts*, Cat. No. 13-213, 1984; Department of Finance, Federal-Provincial Relations; and the Conference Board of Canada, AERIC Provincial Forecast, April 22, 1986.

Table C-1 provides some statistics for 1985 on the upstream sector of the petroleum industry, with a view to identifying the more vulnerable segments and providing some indication of the sources of difficulties. The industry is divided, first, by Canadian versus foreign control and, second, by the characteristics of producers – integrated refiners, and junior and senior producers.[5]

It must be kept in mind that these results for 1985 cover a period when crude oil prices at Toronto averaged about US$28 per barrel. During the first five months of the year, domestic prices were still regulated, favouring the production of "new oil" over "old oil."

The statistics indicate that the Canadian-controlled segment was less financially healthy than the foreign-controlled segment. Return on equity, even before extraordinary items, was lower for the Canadian firms, while the interest-coverage ratio was substantially lower. The foreign-controlled segment of the industry is less dependent on natural gas production and has a higher share of lower-cost conventional oil reserves. With higher per-unit revenues, lower-cost reserves, and lower per-unit interest costs, it is less vulnerable than the Canadian-controlled segment to a downturn in prices.[6]

Of the three types of producers in the upstream sector, the senior oil and gas producers – although more leveraged than the integrated enterprises – showed the best performance. Their return on equity and both net income and internal cash flow per unit of production were all strong.

While all firms have been hard-hit by the fall in the price of oil, junior producers, who supply about 19 per cent of upstream production, constitute the most vulnerable component of the industry. They are more extended financially, with capital expenditures (net of incentive grants) at 134 per cent of internal cash flow – more than 50 per cent greater than for the other two segments. With a higher share of natural-gas and a lower share of "old-oil" production, unit revenues are comparatively low. The juniors have particularly high interest costs per unit and a much lower after-tax income per unit (before extraordinary items). Overall, they are the high-cost producers. Canadian-controlled firms account for two-thirds of the production by junior producers.

Table C-2 presents the results of rough calculations illustrating the impact of a 50 per cent reduction in per-unit revenues from the old level of US$28 per barrel, taking account of the fact that all federal production taxes have been removed and assuming that one-half of provincial royalties are eliminated. While the reductions in net cash flow would be more or less evenly felt by all segments of the industry, in terms of net income the juniors would be, by far, the hardest hit, when compared with the senior and integrated producers. Overall, the foreign-controlled segment would fare much better than the Canadian-controlled one.

Recent Policy Changes in Canada

Even before the price decline, major changes were being introduced in Canada to free the oil and gas industry from many of the regulatory and tax constraints that were introduced in the 1960s and 1970s.

The Atlantic and Western Accords, the proposed Canadian Petroleum Resources Act, and the Agreement on Natural Gas Markets and Prices are among the measures that have been the focus of attention since the beginning of 1985.

In February 1985 the government of Newfoundland and Labrador and the federal government signed the Atlantic Accord covering the joint management of oil and gas resources offshore from that province. The agreement made both governments equal partners in offshore oil developments and provided that the province would be able to establish and collect revenues from those resources as if they were on land. A revised agreement was signed with Nova Scotia in August 1986.

The Atlantic Accord was quickly followed by the Western Accord between the federal government and the petroleum-producing provinces of British Columbia, Alberta, and Saskatchewan. Under the new accord, major changes in the existing pricing and taxation regimes were introduced. Effective June 1985, crude oil prices were deregulated, which resulted in "old-oil" prices going up and "new-oil" prices falling. Volume and price restrictions on short-term crude-oil and refined-product exports were lifted. Export contracts of more than one year for light crude and refined products, and of more than two years for heavy crude, still require prior approval of the National Energy Board (NEB) and the federal government, however. Most of the minor federal taxes and export charges were eliminated. The petroleum and gas revenue tax (PGRT) on existing production, which amounted to $2 billion in 1985, was to be progressively phased out and fully eliminated by January 1, 1989, and would not be applied to new conventional oil production or major new projects after March 1985. (The tax has since been abolished – see box.) The federal government also announced the termination of the Petroleum Incentives Program on March 31, 1986, with grandfathering arrangements for existing exploration agreements.

The producing provinces retained their right to control production in order to ensure good conservation practices and an equitable sharing of production. Thus the Alberta system of pro-rationing still remains in effect for light oil. Subsequently the Saskatchewan and Alberta governments announced a number of changes to their royalty and incentive systems in June 1985, including a phased reduction in the marginal royalty rates on Alberta oil and gas production and royalty holidays for oil and gas investment.

About seven months after the Western Accord, the federal Minister of Energy introduced the government's new frontier energy policy.[7] Under this policy the controversial *Oil and Gas Act* of 1982 was to be replaced by the *Canada Petroleum Resources Act*. The new Act will set out new terms and conditions regarding exploration, development, and production on the Canada Lands. A simplified, single-subject bidding system, including bonus bids where appropriate, is to be introduced, with the exploration rights going to the best bid, although the federal government would retain the right to reject any and all bids. The proposed Act will also eliminate both the 25 per cent Crown share in frontier areas and the preferential treatment originally given to Petro-Canada; it will substantially reduce the discretionary powers of the federal energy minister; and while it will continue to require 50 per cent Canadian ownership for production, this will only apply to production licences relating to discoveries drilled after 1982.

Almost simultaneously the federal government and the governments of the three western producing provinces announced an Agreement on Natural Gas Markets and Prices, designed to move from the system of government-administered prices to a partially deregulated regime for both domestic and export markets over a one-year transition period. While the Alberta border price for existing contracts remained fixed during the transition period, buyers and sellers were free, during this period, to negotiate and renegotiate contracts, as well as competitive discounts.

Contracts for the export of natural gas, for terms not exceeding two years, would be allowed without volume limitation. The overall restriction that export prices should not be less than domestic prices was retained. But export floor prices would now be based on prices charged in Canada for similar types of service in the area adjacent to the export point rather than on the single Toronto price.

The National Energy Board has recently issued two major reports with regard to natural gas marketing. The first announced new procedures for determining export surpluses, intended to protect Canadian users while providing producers easier access to export markets. The second report dealt with the availability and pricing of services by TransCanada PipeLines Limited (TCPL).[8]

Consequences for the Industry

Oil

Despite the major reductions in government intervention in oil and gas markets over this period, some important restrictions remain in place. In the case of oil, longer-term exports require NEB and government approval as to volume and price. The Alberta pro-rationing scheme applies to light oil production in the province, and pipeline capacity limitations currently provide some restraints on the movement of oil. All

Examples of Recent Government Measures to Assist the Petroleum Industry

In response to the collapse of oil prices, the producing provinces and the federal government have introduced a number of measures to buttress the upstream end of the industry. In April, Alberta announced two measures. The first was an enhancement, until the end of the year, of the royalty tax credit from 75 per cent to 95 per cent of royalties paid up to a maximum of $3 million. While this incentive was available to all producers, it was clearly of greater benefit to smaller firms. The second measure was a temporary Exploration Drilling Assistance Program, under which companies will be able to reduce royalties payable after April 1, 1987 by 50 per cent of the cost of exploratory drilling on Crown lands in 1986. The aggregate amount of this royalty credit cannot exceed $300 million.

Subsequently Alberta introduced two additional measures to assist the oil-sands industry. The first was funding assistance for the estimated $85 million in basic engineering and planning for the expansion of Syncrude, with repayment to occur from the proceeds of expansion. The second was a reduction for 1986 in the royalty rate for Suncor from 12 per cent to 1 per cent, amounting to about $23 million per year in relief. In June, Alberta announced three additional programs that will provide about 200 million dollars' worth of assistance to development investment and to seismic and well-maintenance activity in the oil and gas sector.

In addition, the federal government increased the exemption of payment of the PGRT to $2 million (previously $0.5 million) for the life of the tax and set the PGRT rate for Syncrude and Suncor to zero for the remainder of 1986. With those changes, it is estimated that fewer than 60 companies were then subject to the PGRT.

Saskatchewan, too, introduced a three-part Oilfield Employment Program designed to maintain production activity in the industry.

On September 8, 1986, the Minister of Energy announced the elimination of the PGRT, effective October 1, 1986. It is estimated that, at an oil price of about US$15 per barrel, this will mean a total revenue loss to the federal government of about $1.5 billion over the period to December 31, 1986.

these circumstances contribute to a discounting of prices paid in the U.S. market for Canadian crude oil because Canada is viewed as an insecure supplier.

Following the steps taken last year to decontrol oil prices in Canada, several questions have been raised regarding oil price determination as it affects Canadian producers and consumers. It has been suggested, for example, that Canadian producers have received less than competitive prices from Canadian refiners in the recent past. In addition, there is the question of whether the recent reduction in the price of crude has been passed on to Canadian consumers, after taking into account appropriate adjustments, such as excise and sales tax changes.

Chart 5-1 compares the average crude oil prices offered by five Canadian refiners, appropriately adjusted for comparison with the equivalent U.S. prices. At the time of deregulation in June 1985, Canadian refiners indicated that they would adopt a pricing formula based on a weighted average of the West Texas Intermediate (WTI) posted and spot prices, with relative weights of about 75/25 to reflect the proportionate sources of supply in the U.S. market. The chart indicates that this formula does not appear to have been applied for most of the latter half of 1985, when spot prices increased. In the early months of 1986 Canadian crude prices tracked the more rapidly declining WTI spot price. While Canada has only four major oil refiners purchasing from many producers, it must be kept in mind that highly competitive imports were available to a limited part of the Canadian market throughout this period. Thus the formula initially adopted may not have been in the best interests of the refiners, given the market conditions that prevailed.

As to whether the recent reductions in crude oil prices have been passed on to consumers, there is some evidence that refined product prices fell to levels that would have been expected with a full pass-through, with somewhere between a 60- and 90-day lag up to May 1986. This compares with the fact that, in 1985, year-end inventories of crude petroleum and petroleum products represented 85 days of average domestic and export demand.

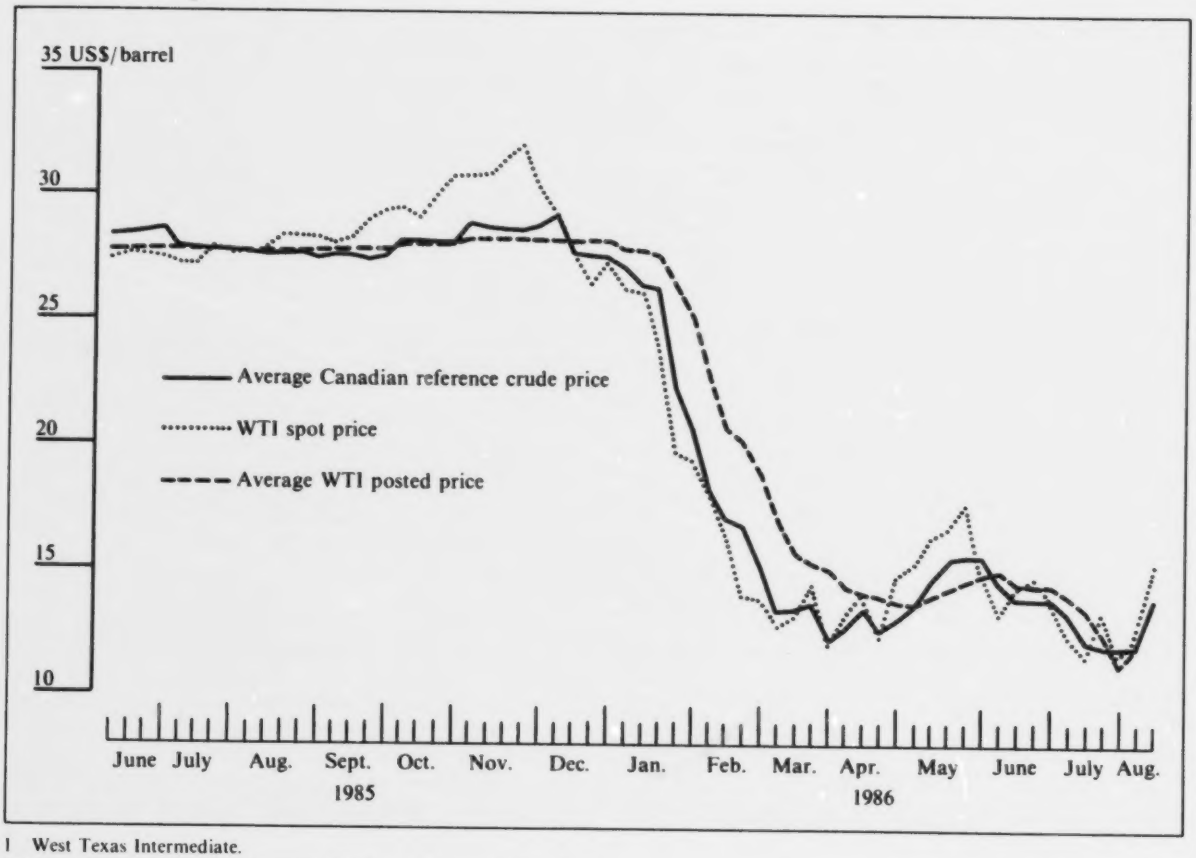
Given that there are only four major refiners in Canada and that substantial dollar amounts are involved, the federal government should continue to monitor prices received for both crude and refined products to ensure that the benefits of competition are fully realized by all parties.

Natural Gas

Market restrictions are more severe for natural gas than for oil. While they are not constraining at this time, both Alberta and the federal government apply surplus tests for exports from the province and the country, respectively. Producers cannot export at prices less than regional floor prices. With price deregulation in the domestic market, buyers and sellers will be free to negotiate prices. Industrial customers will be free to buy from all sellers. However, in the case of distribu-

Chart 5-1

Change in Spot and Posted Prices of WTI[1] Oil and Canadian Crude, Chicago, June 1985-August 1986



1 West Texas Intermediate.

SOURCE Based on data from Energy, Mines and Resources Canada.

tors of natural gas, the NEB has recommended against their being able to displace their existing contracted volumes with TCPL by direct purchases from other suppliers.

At the time of writing, the key question with regard to natural gas is whether price deregulation, scheduled for the first of November, should proceed on schedule. The recently released report by the Pipeline Review Panel, established under the 1985 Agreement on Natural Gas Markets and Prices, identifies the requirements for a competitive market and the steps that need to be taken – both before and after November 1, 1986 – to achieve that objective.[9]

In addition to implementing the necessary measures, there is the more general question regarding the impact of price deregulation, in the current price environment, on both producers and the large natural gas surplus. At the moment there is no shortage of reserves in North America, and, unquestionably, deregulation will bring a sharp fall in prices and net incomes to Canadian producers. They have requested a delay in the implementation of price deregulation, in part because of the expected fall in revenues but also because such deregulation will not be matched by elimination of restrictions on exports. Even if Canada were to adopt a continental policy with respect to energy, and to thereby remove all these restrictions, some producers with heavy debt loads might not survive the impact of lower prices, despite sales volume increases.

In 1985, exports to the United States accounted for close to one-third of domestic production, and demand

for Canadian gas in the U.S. market has been shown to be highly responsive to price. Without strong sales to the United States, the current large domestic surplus of natural gas would decrease very slowly. Thus any extension of regulation of domestic prices for residential, commercial, and small industrial customers in order to maintain returns to producers would not be without problems. If gas exports to other than large industrial customers were constrained by regional floor prices based on the regulated prices, then Canadian gas would not be competitive with lower-priced U.S. fuels, and Canadian producers would lose some market share. If, instead, the negotiated prices to large industrial users in Canada were used as a basis for regional floor prices for all exports, then some U.S. consumers could have access to Canadian gas at lower prices than Canadians, for similar types of service.

In contrast, with price deregulation in effect, the quantity of Canadian gas demanded – both in the United States and domestically – will rise over time, thus reducing the current surplus and restoring greater balance between supply and demand. Some observers have expressed concern that the low returns to producers with price deregulation would not provide sufficient incentive to bring on new reserves when required in the 1990s. However, the experience with finding rates over the last decade indicates that, provided there is an adequate price and the industry is still healthy, gas reserves could probably be brought on stream fairly quickly to meet market demand. It follows, of course, that as supply tightens, Canadians should expect to pay prices equal to those the export market will pay – a condition that did not obtain in the past.

In summary, while the impact of deregulation on natural gas producers is a sensitive, short-term issue, it should not distract policy makers from the harsh realities of the natural gas market, both in the short term and in the longer term, when prices are expected to rise substantially. The fact is that the industry faces severe financial hardship whatever choice is made on deregulation. However, a partially regulated gas market operating beside a relatively decontrolled oil market, besides creating difficulties with regard to export pricing policies, would lead to some distortions in the energy market and, in the short term, could reduce the growth in demand for natural gas in Canada. These outcomes could ultimately be to the detriment of the industry itself.

Security of Oil Supply

Given the current price situation and the possibility that it could continue for a number of years, there is concern that Canada could become increasingly dependent on foreign oil supplies. Chart 5-2 provides estimates of the ratio of production to consumption of crude oil and equivalent, historically and projected to 1995, under the three price scenarios of $10, $15, and $20 oil.[10] The ratio of production to consumption stood at about 1.13 in 1985, meaning that Canada was a net exporter. For $20 oil, the ratio would fall to a low of about 0.91 in 1993 (a net import position) before turning upward. For $15 oil, it would fall to 0.84 in 1995. At $10, the ratio could fall much more quickly even than indicated in the chart if the higher-cost producers decided to shut in supplies.

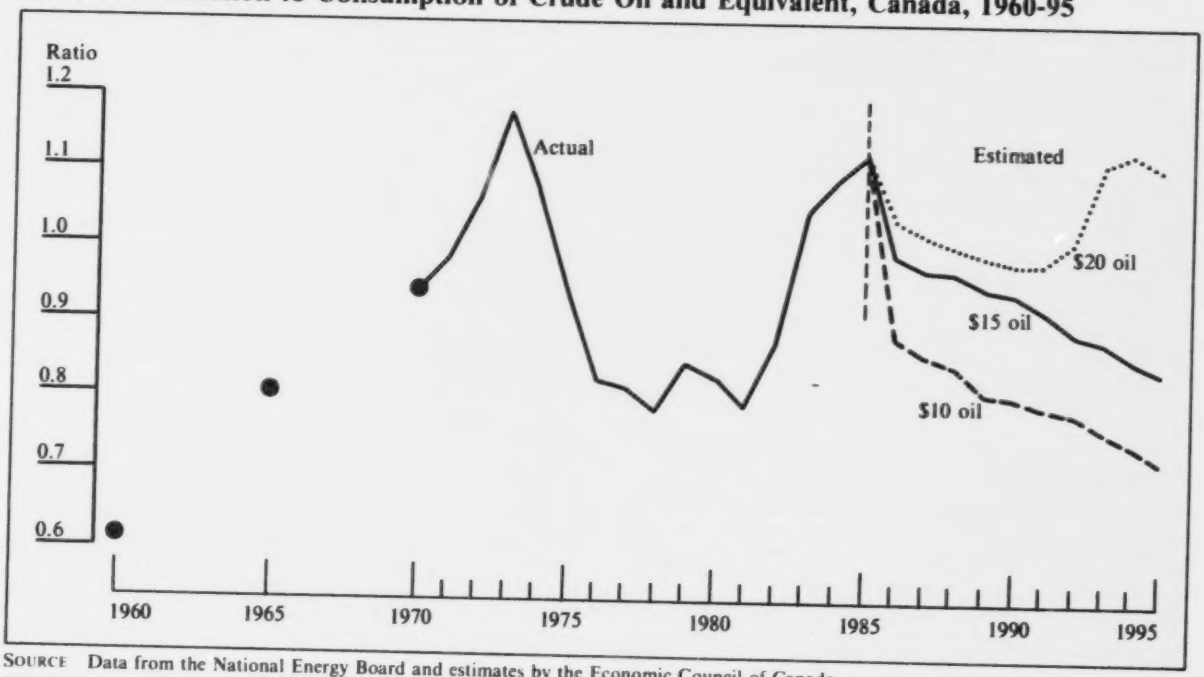
Measures to address concern for security of supply can and should involve both the demand and supply sides. On the demand side, the current low prices will inevitably lead to a setback in energy efficiency as energy users become more relaxed about their rate of energy consumption.

On the supply side, the major concern is the slump in exploration for, and development of, additional oil reserves, as well as the abandonment of wells made uneconomic by the low prices. Clearly, industry cash flow influences reinvestment activity and the continuing production of marginal wells. The federal and provincial tax and royalty changes described earlier are aimed at improving cash flow, but with the low prices the number of potentially economic wells is materially reduced. Producers have suggested various additional measures, such as greater reductions in provincial royalties and floor prices for some production. What is not clear, however, because of the reduced number of potentially economic wells, is how much of the additional flow would be reinvested and how much would simply be directed to easing the debt burden that many producers are now carrying or to other corporate purposes. This suggests that temporary incentives directly linked to investment should be considered as part of a package of fiscal measures for the industry in order to stimulate both exploration and development and the related servicing activities.

A further concern relates to the issue of Canadian ownership and control. While some innovative forms of refinancing have been struck recently, some rationalization of the industry is likely to occur, with some weaker producers being taken over or merging with other producers or with firms in other sectors. As observed earlier, the Canadian producers are the most vulnerable segment of the industry. Many are highly leveraged, and a necessary downward adjustment of asset values may result in a sell-off of assets, mergers, or in some cases outright bankruptcies. At this point, it is not at all clear how the ownership structure of the industry would be affected by this restructuring. However, the federal government will be well placed to regulate the trend in ownership, because any foreign

Chart 5-2

Ratio of Production to Consumption of Crude Oil and Equivalent, Canada, 1960-95



SOURCE Data from the National Energy Board and estimates by the Economic Council of Canada.

acquisition proposals involving asset values of $5 million or more will be reviewed by Investment Canada. This is far below the over-$200-million average asset value of the juniors in 1985.

The important point to bear in mind is that, whether the take-overs are Canadian- or foreign-initiated, an important objective should be to strengthen the financial base of the industry. This financial strength will be essential if the industry is to withstand the current pressures in the marketplace and is to participate in the opportunities created by the next upswing in oil prices.

For now, it is worth recalling that low energy prices benefit most Canadians and stimulate overall economic growth. While it is true that the specific hardships they impose are quickly manifest whereas the benefits filter through the economy more slowly, the interest of consumers must be part of any long-term resolution of the issue. We have seen that, after the initial shock, lower oil prices can add as much as 1 percentage point to real GNE growth over several years (Table A-2). But what do these developments mean for the provinces of Alberta and Saskatchewan? Following the assumptions – including the oil-price estimates – of the base case cited in Chapter 2, by 1991 provincial RDP in Alberta is projected to be an estimated 10 per cent lower than if oil prices had held at US$28 – representing a decrease in growth of about 1.7 per cent per year (Table 5-2).[11] In Saskatchewan the lower oil prices reduce estimated provincial GDP in 1991 by 4 per cent.

The impact on the unemployment rate is difficult to predict. In recent years Alberta has experienced net out-migration to other provinces, and this is likely to increase. But the fact that the rate of unemployment and the average duration of unemployment in Alberta have more than doubled since 1981 gives cause for concern. And, with the drastic reductions in wheat prices affecting incomes in Saskatchewan and the other Prairie provinces, the depth of concern grows.

Problems in Agriculture

Canadian farmers are among the most efficient in the world. Over the years they have created an abundance of produce that has kept Canadians well fed, sustained thousands of jobs in related industries, and contributed in a major way to Canada's exports. Since

Table 5-2

Estimated Impact on Provincial RDP of a Fall in the Price of Oil from US$28 to US$15 per Barrel, Alberta and Saskatchewan, 1986-91

	1986	1987	1988	1989	1990	1991
Difference from base case:						
			(1971 $ billions)			
Alberta	-0.3	-0.7	-1.2	-1.8	-1.7	-1.8
			(Per cent)			
	-2.2	-4.4	-7.6	-10.7	-9.8	-10.4
			(1971 $ billions)			
Saskatchewan	-0.03	-0.08	-0.13	-0.21	-0.21	-0.23
			(Per cent)			
	-0.6	-1.6	-2.5	-3.9	-3.8	-4.0

SOURCE Economic Council of Canada, CANDIDE Model 3.0, August 1986.

the late 1960s the volume of Canadian farm production has increased by roughly 40 per cent, while farm labour inputs have declined by 20 per cent. Today only one out of 25 workers is engaged in agriculture. Yet the success of farmers has been a mixed blessing. Some of the gains in production and productivity – achieved through expansion of farm size, investment in farm machinery, and better yields – have come at a high cost. Heavy farm debts, low farm prices, and drought conditions have caused a farm financial crisis. Much of the problem lies in the world grain markets, where, contrary to expectations, supply now exceeds demand. How did this happen? How long will it last? And what are the implications for Canada?

Increasing World Grain Supply

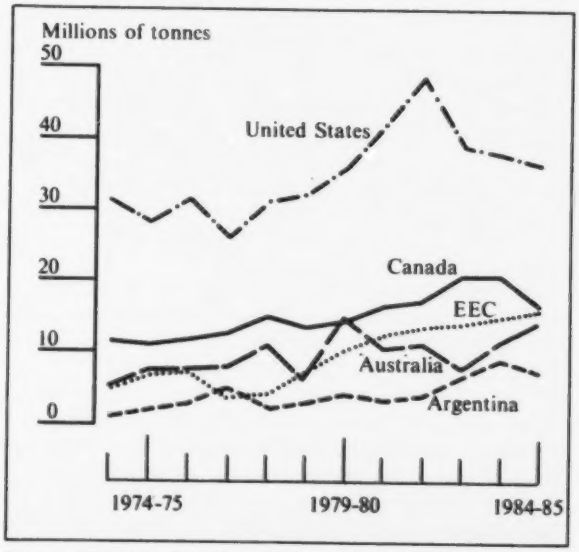
Canadian grain growers are caught in a trade price war between the world's two biggest grain producers – the United States and the European Economic Community (EEC). Both subsidize their wheat farmers heavily, and they have flooded the world's market with low-priced wheat. Both produce primarily for domestic use. But their policies have severely disrupted global markets. Canada, which exports much of its grain production, is one of the losers. All exporting countries will have much to lose if the current glut and low market price lead to more export subsidies and even greater production.

During the 1984-85 crop year world production of wheat rose to a record level of 514 million tonnes. As world consumption remained well below total production, world wheat stocks rose to 114 million tonnes – a record reached only once before, in 1968-69. In late 1985 world wheat supplies continued their upward trend, and despite a projected 17-million-tonne increase in consumption, world stocks are expected to increase by another 10 per cent over 1985-86 levels. From March 1985 to March 1986 the open-market price of wheat (Winnipeg price for Western Red Spring Wheat, No. 3) declined from roughly $170 to $120 a tonne.

In 1984-85 Canada's market share of world wheat exports was 18 per cent, somewhat lower than in the preceding two years but about the same as it was back in the early 1970s. The United States, although dominant through the years, lost part of its share, and the EEC gained steadily (Chart 5-3). Between 1973-74 and 1984-85 Canada increased the total volume of its wheat exports from 11.7 to 17.1 million tonnes. These gains, however, obscured some dramatic shifts in markets: Canada lost a large part of its market share in Eastern Europe to the EEC and just maintained its market share in Japan; but it expanded both total sales and market shares in the U.S.S.R. and, somewhat less consistently, in China. In the decade up to 1984-85 Soviet wheat imports expanded from below 5 to over 25 million tonnes. Canada supplied roughly one-third of these additional imports, and by 1984-85 over 40 per cent of Canadian wheat exports went to the U.S.S.R. In the same period Canada's wheat exports to China also increased from 1.4 to 2.7 million tonnes (Chart 5-4).

Chart 5-3

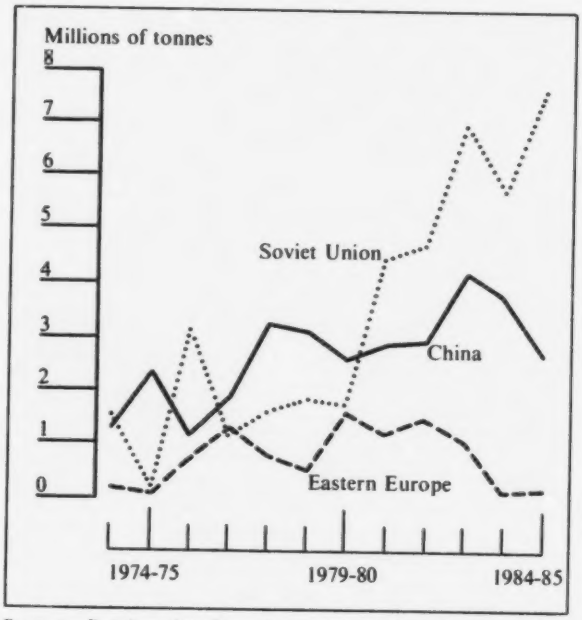
Total Wheat Exports of Major Producers, 1973-74 to 1984-85



SOURCE Based on data from the Canadian Wheat Board.

Chart 5-4

Canadian Wheat Exports to China, the Soviet Union, and Eastern Europe, 1973-74 to 1984-85



SOURCE Based on data from the Canadian Wheat Board.

The Causes of Oversupply

While the problem of oversupply is a global one, a key element in its development and ultimate resolution lies in the agricultural policies of the United States and the European Economic Community. These policies have been oriented towards protecting farm income by using price-support mechanisms. The net effect has been excess production, which in turn has led to falling prices in export markets.

The current U.S. farm program goes back to the 1981 *Food and Agriculture Act*, which provided minimum price-support levels for wheat, feed grains, and other crop and livestock products from 1982 to 1985. Supports were provided to farmers in the form of nonrecourse loans, under which a farmer pledged part of his crop as collateral. As the loans became due within a year, farmers had to choose whether to pay off the loan with interest or to deliver the grain to the government and have the loan cancelled.

A second important feature of U.S. farm price policy was the setting of target prices that determined deficiency payments, the latter being equal to the difference between the target price and the market price or the "loan rate," whichever was higher. When target prices were set well above market prices, it paid farmers to increase output. Although deficiency payments were conditional upon participation in supply management programs, the restrictions were minimal and did not reduce overall production.

At the time it was thought that world demand for farm products would outstrip world supply. But almost as soon as the 1981 U.S. farm program was in place, a combination of bumper crops, a worldwide economic recession, and a high U.S. dollar reduced export demand and cut into farm incomes in the United States. In 1982 real farm incomes, net of inflation and farm expenditures, dropped to their second lowest level since 1933. As both prices and incomes dropped, the cost of U.S. government supports to farmers mushroomed from $2.7 billion in 1980 to $21.8 billion in 1983, nearly equaling 1982 net farm incomes.

The 1985 Farm Bill, which gives the U.S. government more latitude in setting loan rates, is part of a concerted effort to recapture the country's former market share in world trade. While the loan rates for American wheat and corn are mandated to drop by some 20 per cent, farm incomes will be protected by keeping up the target prices for wheat, corn, and other crops and by covering the difference between the target price and the loan rate with deficiency payments to farmers. At the same time, the program sets acreage reductions for wheat at a minimum of 15 per cent and ranging as high as 22.5 per cent. In the process, government payments to American farmers will be much higher than in recent years, keeping farm incomes up while prices go down.

Meanwhile, the Common Agricultural Policy of the European Economic Community protects its farmers from lower wheat prices by import tariffs (levies) and export subsidies (restitutions). Indeed, EEC support prices between 1967 and 1983 exceeded wheat import prices by an average of 65 per cent. (The degree of support varied over the years so as to stabilize EEC grain prices against fluctuations in world prices.) This created a strong incentive for European farmers to increase production. As a consequence, the growth in grain yields averaged nearly 3 per cent per year after 1960, while the growth in EEC grain consumption was less than 1 per cent per year.

The rise in world import demand during the 1970s enabled the EEC, as well as the United States and Canada, to expand wheat and grain exports. With the slowdown in the 1980s the Community has attempted to curtail the growth of output through the application of threshold pricing, whereby support prices drop as output reaches certain threshold levels. More recently, a policy has been advocated to close the gap between EEC and U.S. prices, although it is not clear whether

the target will be U.S. market prices or U.S. price supports. For 1985-86 the initial EEC proposal was for a 3.6 per cent reduction in EEC intervention prices, but no agreement was reached. The measures adopted to date do not constitute anything like a firm restraint on EEC grain production or prices. In short, there is no sign of early action by the EEC or the United States to modify the programs that have caused such serious distortions in world grain markets.

Indeed, with falling world demand for wheat, the United States has seen its sales drop from roughly 40 million tonnes per year during the years 1980-84 to 25 million tonnes in 1985, or by some 40 per cent, while Canadian exports declined by 12 per cent[12] and EEC exports actually increased by 8 per cent. As a result, pressure is building in the U.S. Congress to protect the U.S. farmers from "unfair" competition by supporting farm incomes, and at the same time to challenge other exporting nations by deliberately subsidizing grain exports and allowing the U.S. loan rate – which sets the world price – to decline sharply.

Implications for Canada

Since U.S. loan rates provide an effective floor for world market prices, the newly established lower rates have exerted downward pressure on Canadian grain prices, and the Canadian Wheat Board announced in April a lowering of its initial wheat prices from C$160/tonne to C$130/tonne in 1986-87. Correspondingly, the initial payments for barley and oats have also been adjusted downward.

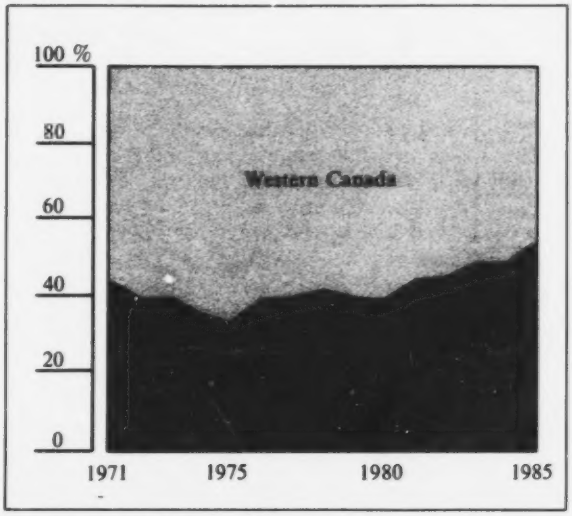
Net farm income realized in western Canada declined from $2.2 billion in 1984 to $1.8 billion in 1985. Because of the decline in grain prices it could drop further despite a steady cash flow from livestock enterprises and additional payments under the *Western Grain Stabilization Act*.

The prospects of a market-based recovery in western Canada, particularly in the grain sector, are quite limited over the next few years. Although many farmers (in both the East and the West) are in financial straits, the problems in the West are aggravated by the decline in revenues and net farm incomes (Chart 5-5). The glut of grain on world markets can be expected to keep export prices down and will continue to depress western farm incomes for some time to come. Indeed, the severity of income losses and the rising number of farm bankruptcies have occasioned government action at both provincial and federal levels. And the prospects for additional losses Canada-wide over the period 1985-90 prompt further concern.

In eastern Canada income prospects are more favourable. Cash receipts from sales of fruits, vegetables, and greenhouse and nursery products are

Chart 5-5

Distribution of Net Farm Income Between Eastern and Western Canada, 1971-85[1]



1 The data for 1985 are preliminary.
SOURCE Based on data from Statistics Canada.

expected to increase. Lower prices for western feed grains and lower prices for imported corn will help eastern livestock producers to maintain their incomes. And the expansion of markets for U.S. agricultural products outside North America will not affect Canadian poultry and beef producers because they do not depend on overseas markets. The same is true of Canadian dairy producers. Canadian pork exports to Japan, however, are more vulnerable. And Canadian potato producers are concerned that quality checks of potatoes entering through U.S. northeast ports by the U.S. Department of Agriculture could create an additional nontariff barrier. Nevertheless, the overall farm income situation in the East is expected to improve. After a marginal decline in realized net farm income from $2.12 billion in 1984 to $2.08 billion in 1985, net farm income in the East is expected to reach $2.37 billion in 1986 – an increase of some 14 per cent.

Financial Problems of Farmers

Drought conditions, high interest rates, low farm prices, and a decline in the value of farm assets have put many farmers into financial difficulty. Returns to farm capital since 1982 have been negative, causing severe cash-flow problems for many farmers, even for those with highly mechanized, large-scale operations. Foreclosures by lenders and farm bankruptcies are prompting fears about the health and stability of the

agricultural sector. As well, there are concerns about the repercussions that a dramatic decline in farm incomes could have on farm machinery and equipment industries, banks, and rural communities.

The financial problems encountered by farmers today are largely the result of debts incurred during the 1970s. After the boom in grain exports during the early 1970s, the sharply higher grain prices during the mid-1970s, the stronger export demand for livestock and oil-seed products between 1976 and 1979, and another boom in grain exports from 1979 into the 1980s, the future of Canadian agriculture looked very promising. Many farmers expected the trends of greater export demand and higher farm prices to continue. Use of credit was encouraged by agricultural experts, and farm credit was readily available from the major banks and the Farm Credit Corporation (FCC). Young farmers bought out the old. Many borrowed heavily to buy more land and bigger machinery and equipment. Rising farmland prices provided them with additional equity, and that enabled them to borrow even more. Between 1972 and 1982 the farm debt increased at an average annual rate of 16 per cent, while the market value of land and buildings escalated by 21 per cent (Chart 5-6 and Table C-3).

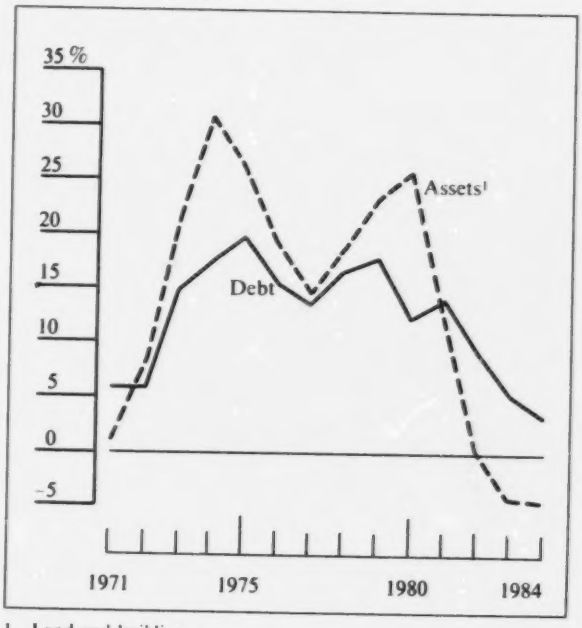
Then the bubble burst. Farm prices that had risen 200 per cent from 1971 to 1981 leveled off. Over the next five years (from 1981 to 1985), livestock prices increased by only 5 per cent, and crop prices actually dropped by some 20 per cent. Farm incomes stagnated. Overall, the dollar value of farm assets declined by some $8.5 billion, or $100,000 per farm. Most farmers were not affected by these paper losses, but to some they were very real.

As farm expenditures rose faster than farm incomes, nearly all farmers experienced tighter cash flows. Although clients of the Farm Credit Corporation are generally considered to be higher-risk farmers who assume above-average debts, changes in the FCC accounts were related to the underlying trends. On average, 1984 interest payments to the FCC on farm debts were less than $10,000. Nearly three-quarters of all farmers had debts that amounted to less than 25 per cent of their farm assets, and their interest payments were only $4,000 per year. But roughly one out of every ten farmers had a debt of 70 per cent or more, and for those farmers interest payments averaged $25,000, or 19 per cent of their annual gross farm sales (Table 5-3).

It is striking that it is the farmers with larger-scale operations who have been in financial difficulty. Farmers with the highest farm equity and lowest debt had gross sales of $74,000 in 1984. By contrast, the one farmer in ten whose debt was 70 per cent of assets

Chart 5-6

Change in Farm Debt and Farm Assets, Canada, 1971-84



1 Land and buildings.

SOURCE Based on Statistics Canada, *Farm Net Income Reference Handbook*.

or more had sales of $135,000 that year, or $45,000 more than the average. Young farmers who have recently acquired land and financed their operations with borrowed funds have generally been experiencing cash-flow problems. Some of the middle-aged farmers who started out farming 10 years ago, when much less equity was required than today, are also in difficulty. Bank credit policies have tightened since the early 1980s. As farm prices have declined, lenders as well as borrowers have become more aware of the financial risk of high-ratio borrowing.

The cash-flow problems in agriculture are reflected in the number of arrears and the frequency of bankruptcies. Since 1980-81 the percentage of FCC arrears (of more than $500) has doubled from 7 to 14 per cent. The number of bankruptcies rose from 261 in 1981 to 551 in 1984. In the last two years nearly one-half of all bankruptcies were in the livestock sector; and about one-quarter, in the field-crop sector. Traditionally most bankrupties have occurred in Ontario and Quebec, but the share of bankruptcies in the Prairie provinces has risen abruptly since 1981.

The financial problems of farmers have been more serious in some enterprises and regions than in others.

Table 5-3

Selected Farm Statistics,[1] by Farm Equity Level, Canada, 1984

	Farm equity levels				
	Less than 25 per cent	25-50 per cent	50-75 per cent	75-100 per cent	All farms
Number of farmers	7,477	13,826	42,193	165,255	228,751
			(Per cent)		
Distribution	3.3	6.0	18.5	72.2	100.0
			($ thousands)		
Assets	362	453	554	506	508
Liabilities	335	273	199	36	91
Net worth	26	180	356	470	417
			(Per cent)		
Equity (net worth as a proportion of assets)	7.5	39.8	64.3	92.9	82.2
Debt (liabilities as a proportion of assets)	92.5	60.3	35.9	7.1	17.9
			($ thousands)		
Gross sales	127	139	131	74	90
Interest expense	24.2	26.4	19.9	4.0	8.8
			(Per cent)		
Interest as a proportion of gross sales	19.0	19.0	15.2	5.4	9.8

1 All financial statistics are averages.

SOURCE Pierre Cloutier and David MacMillan, "Current financial difficulties in Canadian agriculture," Economic Council of Canada, Discussion Paper 310, Ottawa, August 1986.

In southern Saskatchewan and Alberta, for example, grain producers have been plagued by drought. For most of them, 1985 was the second year of dry weather and grasshopper infestation, and lower-quality wheat accentuated their income losses. Cattle farmers have also experienced difficulty. Since 1981 the demand for beef has weakened, as overall meat consumption has declined and the competition from imports has increased. As well, poor growing conditions in the West have made for higher barley prices and hay shortages. This has lowered the incomes of cattle farmers and prompted some of them to cut the size of their herd.

Some remedial federal and provincial measures and programs have been implemented over the last few years to deal with the financial stress in agriculture. Most of these are aimed at reducing the burden of debt payments; others are directed at income support and agricultural adjustment (see box).

By and large, Canada's Prairie farm policy has been aimed at income stabilization and long-term adjustment. The federal government's *Western Grain Stabilization Act* of 1976 provides income insurance for grain producers in the Canadian Wheat Board designated area. Prior to 1984, for every one dollar paid into the insurance fund by producers, the federal government contributed two dollars. If the net cash flow of a farmer in the area fell below the average of the previous five years, a payment was made to cover the shortfall of that year. Until the early 1980s the payments under this program were modest. By 1985, however, the government's share had been raised, and payments reached $522 million; they could approach $1 billion by 1987. Nevertheless, it is expected that the program will continue, primarily as a stabilization program that adjusts to declining or rising trends.

The Canadian Wheat Board (CWB) is a government trading agency that pays government-guaranteed initial prices for grains in relation to anticipated world prices. Total payments to producers will depend on the actual returns from sales in domestic and export markets. Costs to taxpayers have been infrequent and small. Should world market prices fall below the level of the initial CWB prices, however, the Board would carry the difference, and the costs would rise.

Both the income stabilization program under the 1976 Act and the CWB program adjust to changing market prices and long-term trends, and they encourage structural adjustments in farm labour and other farm inputs. They differ from price-support programs

Recent Federal and Provincial Farm-Support Measures

On February 26, 1986, the federal government announced a $700-million farm loan program that ties loan payments to farm commodity prices. Under the program, farmers with debts of 60 per cent of farm assets (or more) became eligible for loans with an interest rate of 6 per cent. Those with debts up to 45 per cent of farm assets also became eligible for somewhat reduced rates, half way between the 6 per cent rate of the Farm Credit Corporation and the going rate for 10-year, fixed-term mortgages. Loan payments vary, up or down, with farm commodity prices.

In addition to this major financial program covering a wide range of farms, there is a variety of other programs in support of specific farm enterprises and/or farming regions. For example:

- The Agricultural Development Corporation of Alberta provides eligible farmers with operating loans at the prime rate (covering the period from January 1985 to December 1987).
- The government of Saskatchewan introduced a cash advance to all farmers in the form of a one-year, interest-free loan of $125 per head of cattle, payable upon the sale of the animal.
- The federal government is helping farmers in drought-striken areas of Saskatchewan and Alberta with a $48-million subsidy for the transportation of feed to those regions.
- In March 1985 the Manitoba Agricultural Credit Corporation wrote down interest rates retroactively to 8 per cent on all outstanding loans.

The announcement by the Canadian Wheat Board of lower initial payments for wheat was followed by federal government plans to:

- provide support to farmers by eliminating all federal sales and excise taxes on diesel fuel and gasoline for farm use;
- freeze grain freight rates at current levels for the next crop year (beginning August 1); and
- assist wheat farmers by raising the domestic price above the world-market price.

As well, the government plans to expand on existing farm legislation, to help farmers cope with their financial problems.

for dairy products, which are based on a production-cost formula, with farm output controlled by quotas and farm products sold at above market-clearing prices.

The Longer-Run Outlook

Just as Canada's domestic demand for wheat and feed grains has not changed much on a per capita basis and has not kept up with Canada's production potential, world demand for food and feed grains may not keep up with the world's production potential, at least not in the longer run. In the last few years China has become a net exporter of corn, and the Chinese government is determined to increase yields and achieve agricultural self-sufficiency by the year 2000. The Soviet Union's grain imports increased from 32 million tonnes during 1982-84 to 55 million tonnes in 1984-85. Nevertheless, the U.S.S.R. also wants to reduce its dependence on agricultural imports. In terms of volume, the Soviet Union has always been an uncertain export market for Canada. And while there are domestic pressures for increased meat supplies, in the long-run Soviet demand for food and feed grains will not likely grow much more than that of other industrialized countries.

Canadian farmers gained an advantage in export markets as the Canadian dollar weakened against the U.S. dollar over the past several years. To promote a stronger recovery of Canadian agriculture through export subsidies could easily result in retaliatory measures from our trading partners; far better that Canada maintain its competitive edge through further productivity improvements.

Serious problems are confronting Canadian farmers. The outlook for world grain prices is not promising. Beef prices, too, are likely to remain low. Not only is there a beef surplus in the EEC, but the large-scale response to the U.S. Dairy Herd Withdrawal Program will leave an unusually heavy overhang of slaughtered beef in the North American market. The price of farm land continues to decline, aggravating an already serious debt burden confronting those farmers who borrowed heavily in years past. In some parts of the western provinces, there are problems of soil degradation and water shortages. Additional research and development is needed to improve Canadian agricultural productivity and enable Canadian farmers to stay internationally competitive.

Much of the new technology will make for higher yields. Further hybridization of crop varieties and more-intensive cultivation will continue to raise crop yields per acre, and new biotechnologies could have a dramatic impact on livestock production. The use of hormones in dairy production, for example, could boost the annual yield per cow by 20 to 40 per cent. But in the face of limited domestic and world demand for farm products, real farm incomes can only improve significantly if the number of farms declines further.

Progress on the supply side underscores the long-term adjustment problem of agriculture: most of the new technology favours fewer and fewer farmers.

There are also real questions arising from the plethora of government assistance and support programs in both Canada and the United States that could conceivably be raised in the context of current trade negotiations between the two countries.

At the international level it seems clear that unless common sense prevails, the massive subsidization of farming in most of the industrialized world, the surplus of agricultural production, and depressed farm prices will continue to foster irritation and trade disputes among nations. It was the major western nations initially that insisted on excluding agricultural matters from the GATT, to the annoyance and detriment of many of the developing nations. It is now appropriate for Canada to take the lead among OECD countries in urging that agricultural trade be brought within the purview of GATT. Indeed, such was the implication of the Prime Minister's statement following the Tokyo Economic Summit meeting in May, where agricultural issues were discussed and where the heads of governments "focused on the paradox of preaching freer trade while pumping billions of dollars into subsidies for agriculture."[13]

The Canadian farm community has long been the backbone of the economy; Canadian farmers have enjoyed, and deserve, the support of all Canadians. They have made many adjustments over the years, with the consolidation of farms and the exodus of a sizable population to other lines of activity. Already, for the majority of farm families, off-farm income is not inconsequential.

In the past, adjustments were easier when the prices of farm commodities and agricultural land were rising, and farmers' finances were relatively strong. But for those who are now saddled with heavy debts and who foresee the prospects of low or declining farm prices, the adjustments will be difficult. Governments have a role to play in helping those who experience hardship and in shielding farmers from excessively capricious markets. But, over the longer term, all parties must respect, and adjust to, the signals and realities of world and North American agricultural developments.

Environmental Issues

Environmental issues usually surface as crises demanding immediate responses; they also serve as warnings to put environmental policies in order. Such policies involve all levels of government, since many of the most serious instances of neglect entail localized situations where more than one level of regulatory surveillance comes into play.

The Economic Council is deeply concerned about these issues because environmental neglect creates serious damage to human health and to the quality of the resource base. There is also the inherent risk of destroying that very resource base – land, water, wildlife, and forests – which has been the engine of growth in the past. Most of the benefits presently derived from the environment are ignored by conventional economic accounting methods, but this must not lull people into neglecting a precious heritage. In this section, we review briefly some aspects of Canada's experience with toxic wastes, air pollution, and the management of water and forests.

Toxics

The problems posed by toxic emissions are complex. Dumped on land, toxics can contaminate surface and ground water; improperly incinerated, they may spread and pollute over wide areas. Whether in concentrated state or in diffused forms that move between environmental media, their relatively imperishable nature can lead to a lethal accumulation in vegetation, fish, and ultimately people.

And there is a lot of toxic material to deal with. In Ontario alone it has been estimated that about 1.5 million tonnes of wastes are generated annually; these are hazardous unless subjected to special treatment and detoxification beyond the usual disposal methods offered by conventional municipal sewage facilities.[14] Only about half of this toxic waste receives some form of treatment now. As well, there is a legacy of potentially dangerous dump sites that, with improved monitoring, reveal extensive risk of leakages. For example, government and industry in Quebec have spent more than $44 million on the remedial clean-up work under way at 48 toxic waste dumps, and there are another 114 sites, at least, in that province alone that experts have identified as posing some health risk.

The spill of dry-cleaning fluids by Dow Chemical into the St. Clair River in August 1985 and the subsequent discovery and clean-up of contaminated blobs on the river bottom further illustrate the backlog of environmental problems.

Since 1974 there have been 32 reported spills in which 10 or more tonnes of materials were discharged into the St. Clair River. Subsequent investigations have revealed many possible sources of river contaminants.[15] They also demonstrated that there have been shortcomings in the continuity and extent of the monitoring of active waste-disposal sites and that protection technology has not always kept pace with production technologies. It was only after the discovery of high concentrations of industrial organic pollutants late in the 1970s, when increased awareness and lab technology prompted closer monitoring of discharges,

that effluent-control regulations over some nonconventional pollutants began to be implemented.

Whereas Canada's "chemical valley" has caused much of the pollution of the St. Clair River, 90 per cent of the pollution in the Niagara River is said to come from the U.S. side. And there, partly because the issue has been the centre of litigious action in the courts and in separate inquiries, remedial action has been distressingly slow. Among the four major dumps in the area, some work aimed at containment has been undertaken at Love Canal, including the installation of a clay cap, a leachate collection system, and leachate treatment facility. Currently, provincial, state, and federal officials are continuing their efforts to get agreement on a Niagara River toxics-management plan. Such a plan would set out timetables and targets, and would establish annual evaluations of toxic reductions and signal stronger commitment on the part of the U.S. regulatory authorities and the offending chemical firms to take appropriate remedial action. Methods of cleaning up at specific dump sites are a critical element in this planning process. In particular, the merits of the containment approach need to be compared with those of excavation and destruction by means of thermal treatment.

The consequences for the Great Lakes were recently dramatized by the federal Minister of the Environment, who spoke of "a toxic-chemical timebomb ticking away in the drinking water of four million Canadians and one-and-a-half million Americans."[16] Recent studies reveal that there are about 800 toxic organic substances in the Great Lakes.[17]

Waste is not the only source of environmental hazards. There are about 80,000 chemical products in existence, 4,000 of which may require extensive testing. The possibility of accidents in their manufacture, transport, or use is a continuing source of industrial and public concern.

Since the publication of our report on regulatory reform, where we dealt with environmental issues,[18] there have been some major improvements in the expertise and technology devoted to detecting and measuring the persistence and accumulation of toxics in the environment. Companies are more alert to the epidemiological risks and the costs of clean-ups and environmental restoration. There has been some progress made in the reclycing of wastes and in establishing hazardous-waste treatment facilities.

There has also been some strengthening of regulations, particularly on accidental spills. Federal transport regulations introduced last year establish a uniform, multi-modal set of regulations to help provinces monitor the movement, and assure safer transport, of dangerous goods. The Ontario waste-manifest system now being phased in under Regulation 309 is designed to track wastes from the point of generation to final disposition. Computerized monitoring makes closer surveillance practical. Other provinces are also strengthening their waste-management regulations.

There is still the need for capacity to treat, and ultimately dispose of, toxic waste. Here the signs are encouraging. In Quebec a private firm operates a treatment and solidification plant for inorganic waste. The Ontario Waste Management Corporation has now selected the site for its comprehensive treatment facility. A joint public/private venture plans to open a plant for handling Alberta's wastes in mid-1987. As part of an ongoing public planning process, Manitoba is setting up a Crown corporation to develop and operate hazardous-waste facilities. And many other companies now offer special services, such as incineration and sludge filtration.

There is also the ultimate problem of liability. Here again, the recent proclamation of Ontario's "spills bill" is a sign of progress. This legislation, besides focusing on accident prevention and minimization, also prompted privately pooled insurance coverage to compensate individuals suffering damages because of accidents.

This is not to say that all is well with respect to toxic waste treatment and regulation. Lack of appropriate disposal facilities still inhibits control over some types of waste. We share the real concern of the federal Minister of the Environment with respect to toxicity in the Great Lakes. We share the view of the Ontario Environment Minister that the courts have been far too lenient in sentencing those deliberately defying environmental regulations, and we urge other provinces to follow Ontario's lead in stiffening their enforcement, prosecution, and penalties in cases of environmental abuse.

Air Pollution

The damage inflicted by airborne pollution remains a pressing issue. We are now becoming aware of how complex is the interactive impact of the sun's irradiation and the various pollutant mixes, or "soups," upon green plant tissues and other living organisms. We have more information on the geographic extent of the damage that is occurring, undeterred by national boundaries. There is growing evidence indicating that the mix of pollutants, including the sulphur dioxide (SO_2) and nitrogen oxide (NO_X) acidifiers, is seriously damaging forest growth and species diversity. About half of Canada's productive forests are in areas receiving acid deposition. As well as damaging forests, volatile organic compounds and nitrogen oxides (photochemical oxidants in reaction to sunlight) are adversely affecting agricultural crops.

In addition to top-level Canada-U.S. discussions and study, governments, along with industry and environmentally concerned groups, have been addressing the issue with modest success. In the atmosphere there have been significant declines in the average levels of a number of conventional pollutants monitored by Environment Canada. Since 1980, SO_2 and NO_x emissions from stationary sources have stopped rising, and SO_2 emissions have continued to decline, both in eastern Canada and in the United States. While the economic recession and energy conservation undoubtedly contributed to these favourable trends, federal, provincial, and state regulatory action has played its part. The 1984 federal/provincial commitment to reduce wet sulphate deposition to less than 20 kilograms per hectare per year, to protect moderately sensitive lakes and streams, is being backed up with schedules of stricter provincial standards for major emitters. Noranda Mine's smelter in Rouyn, Quebec, for example, has been ordered to cut SO_2 emissions to 50 per cent of the 1980 level by 1990; in Ontario a nine-year program has been instituted to yield a 67 per cent reduction from the 1980 level of emissions by the four main sources that contribute almost 80 per cent of the provincial total. Stricter standards for emission-control equipment on new light vehicles, which will take effect in 1987, will further reduce nitrogen oxides, hydrocarbons, and carbon monoxide pollutants. (They parallel corresponding limits introduced by the U.S. government in 1981.)

Notwithstanding these favourable developments, the major problem remains. Most of the airborne pollutants damaging Canada's forests and lakes emanate from the populous industrial states of the U.S. Midwest that rely on low-grade, high-sulphur coal. Yet, despite the U.S. Administration's belated recognition of acid rain as a serious problem and despite pressure by eastern-state Congressional representatives for remedial action against the major polluters, the prospects for stricter U.S. controls still do not look very good. Hence Canada must continue to lobby and to press its concerns vigorously with the U.S. Administration.

Water Management

So far we have dealt with the qualitative degradation and health risks inherent in environmental issues. But there is the quantitative, resource-management side as well. Take water, for instance. The myth of Canada as a boundless source of natural resources is perhaps most strikingly sounded in relation to fresh water. Canadians are blessed with immense amounts of renewable fresh water and are among the world's heaviest users of water. Water consumption has risen significantly – from 3 billion m^3 in 1972 to 4 billion m^3 in 1981. But there are regional supply-and-demand imbalances that, particularly on the Prairies, have become increasingly serious.

The impending water crisis in the drier areas of Alberta, Saskatchewan, and Manitoba affected by drought and soil salinization was addressed in the final report of the Inquiry on Federal Water Policy. The report concluded that in these and other areas of Canada, the unlimited or unregulated use of water is no longer feasible. It focused on the possibility of managing water demand as opposed to the customary preoccupation with supply, as a means of using water more effectively and efficiently. Extensive evidence in Canada, the United States, and elsewhere demonstrates that water pricing influences its use significantly. Moreover, the Inquiry's hearings revealed considerable support on the part of environmental groups for incentive schemes to relate the supply of, and contain the demand for, water to its most beneficial uses. Effective management of demand requires detailed information, in specific situations, about the sources and uses of water – making studies and experimentation with water-demand regulators an urgent priority.

Forest Management

Similar initiatives to improve the management and husbanding of Canada's forest wealth are very much in the realm of public discussion. Canada's economic forest base is changing from virgin forests to replanted growth. Over the next 60 years, most of the accessible mature timber stands will disappear; hence the interest in more silviculture investment and changes in harvesting rates and practices. This has prompted efforts to outline a national forest-renewal policy, complete with federal-provincial agreements on forest-resource development, aimed at providing more-intensive forest management.

As one observer, discussing the legacy of past deficiencies in forest management, put it: "The problems are big, and they are many. They are becoming more severe. They are complicated, and the solutions are not simple. They could have been prevented, and they are 'fixable,' but they will take a long time to correct, and the adjustment will be traumatic. They are related mainly to the structure of the forest and declining quality of available material."[19]

The existing land-tenure situation (predominantly Crown ownership, except in the Maritimes) enjoys widespread acceptance in Canada. There is, nevertheless, concern that the institutional arrangements between governments and forest users, and the associated incentive structures, have been failing to generate appropriate forest management. Management is difficult because of the multiple purposes served by forests, the long investment period involved, the

volatility of the markets for some forest products, and the influence of local conditions. But sound management is important because forestry is vital to many communities in western and eastern Canada, and to Canada's export trade.

Current Government Initiatives

Governments are clearly aware of the need to set appropriate standards and then to enforce them. In that sense, policy has come a long way over the past 15 years. Environment Canada is now reviewing existing environmental legislation "laying the groundwork for a major rationalization of environmental law within federal jurisdiction."[20] Central to this is new environmental-contaminants legislation, which, according to the Minister, will "regulate chemicals through their full life cycle. . . . [It] will cover every facet of cleanup, including possible compensation to innocent third parties."[21] The recommendations of the Inquiry on Federal Water Policy are also under study. The department's proposals for change should be available for public discussion in the autumn.

Federal initiatives need to be complemented by action at the provincial level and by intergovernmental programs at the international level. Ontario has announced plans to upgrade regulations of toxic emissions into the air and water, combined with better monitoring and tougher enforcement. Quebec has embarked on a 10-year program for cleaning up hazardous-waste disposal dumps, as well as a costly construction program of water distribution and treatment. Agreements are being negotiated between the federal and provincial governments on environmental matters, including water quality. The negotiation of the agreement between Ontario and the federal government, aimed at cleaning up those areas of

Some Recent Federal and Provincial Measures to Protect the Environment

- The federal government's Acid Rain Abatement Program established timetables and targets with the provinces for reducing sulphur dioxide emissions to half the 1980 levels by 1994. The federal government has earmarked about $200 million for cost-shared activities under the program. The provinces have set the standards and targets for specific emitters to meet the program's goal.

- Tighter federal standards for automobile emissions will require a 45 per cent reduction in nitrogen oxide emissions from new cars, effective September 1987.

- Federal regulations concerning the phase-down of lead in motor vehicle gasoline become effective in January 1987. By 1990, 85 per cent of gasoline sold in major urban centres will be lead-free. Furthermore, the Minister of the Environment has announced that lead will disappear from gasoline sold in Canada after 1992.

- Federal regulations have restricted the importation and sale of certain products containing PCBs.

- With the implementation of federal regulations in July 1985 under the *Transport of Dangerous Goods Act*, the provinces are revising their regulations in order to track and control more effectively the handling of hazardous wastes. In some cases regulations regarding waste generation and/or disposal have become stricter.

- Ontario implemented its "spills bill" in November 1985, placing absolute responsibility for immediate clean-up and restoration on the spiller and/or owner of the spill substance. Compensation for spill victims was facilitated by the creation of the Environment Compensation Commission. An Environmental Security Fund of $10 million (annually) was also established by the Ontario government.

- In New Brunswick, new regulations governing underground petroleum-storage tanks (including stronger provisions for preventative maintenance) have been promised.

- A two-year pilot project on underground storage-tank management has been announced by the federal government. Prince Edward Island as well as private interests will participate in research, monitoring, and education aimed at reducing risks of groundwater contamination.

- Use of chemical pesticides is being restricted. Most provinces are now limiting forest spraying to biological insecticides.

- Quebec continues to fund a waste-water treatment program initiated in 1979 to improve water quality through the development of infrastructure for the treatment of municipal and industrial wastes. The program is anticipated to cost $7 billion over 10 years.

- Greater enforcement efforts are evident in some provinces. This can involve closer monitoring of polluters, more training and recruitment of additional enforcement officers, as well as tougher penalties.

- The federal government has negotiated a trial agreement on environmental assessment with Alberta, designed to reduce duplication of procedures.

- The North American Waterfowl Management Plan, endorsed May 14, 1986 by Canada and the United States, proposes a 15-year management agreement (estimated at $1.5 billion), to be undertaken jointly by private and public interests in both countries, in order to reverse the decline in waterfowl populations.

- Several provinces have taken steps to protect wildlife – Manitoba's Heritage Marsh program being one example.

concern in the Great Lakes identified by the International Joint Commission, represents a step forward in implementing the Great Lakes Water Quality Agreement.

Conclusion

While there have been positive developments on many fronts, we believe it is important to emphasize that more attention to both the global and the local environment is essential. As events at Three-Mile Island, Bhopal, and Chernobyl remind us, we are all vulnerable to catastrophic events. Many toxic substances are still not subject to effective controls, and some major sources of emissions are not controlled. Too often differences in interests inhibit progress, particularly if buttressed by jurisdictional divisions.

Looking further ahead, international negotiation on cross-jurisdictional problems, including how and where pollutants can be reduced and how the costs of remedial action can be apportioned, will become even more necessary if scientific theories predicting an atmospheric greenhouse effect and ozone-layer depletion are substantiated.[22] These potential problems are truly global in scope – in terms of both the effects and remedial action.

Outlays for environmental protection are considerable. Industry and government are spending millions of dollars annually on reducing the amounts and toxicity of waste emissions into the environment. The cost of the new Canadian program to cut SO_2 emissions has been estimated at $1.5 billion over eight years, for example. On a more aggregative front, the OECD has estimated that public and private environmental expenditures may account, in some member countries, for as much as 2 per cent of GDP. And on very conservative projections of economic growth (and consequently less pressure on the environment), the OECD calculates that real pollution control expenditures would have to climb 100 per cent by 1990 just to hold pollution to 1978 levels (barring favourable new technological developments).[23]

The emphasis clearly must be on prevention. Not all environmentally damaging emissions can be contained, but in those cases where the offending agency can be identified, we believe that the "polluter pays" principle should be applied.

We have, in Canada, a legal infrastructure that enables effective government control over activities hostile to the environment; we have some successful experience in cooperation among jurisdictions in establishing environmental programs; and we have a public that recognizes the importance of the environment. In recent years, there have been indications of a stronger political commitment to pursuing environmental objectives more decisively. Industry, too, has become more receptive to environmental concerns and is investing heavily in pollution abatement equipment. But further initiatives are needed to safeguard the health of Canadians and the quality of the nation's resource base. This may entail stricter enforcement of existing standards and the closing of regulatory gaps in the face of new chemicals and new technologies. It may also call for direct federal leadership, in conjunction with other governments, to resolve interjurisdictional issues and to ensure that Canadians in whatever province they live will be able to enjoy environmental standards that are high and uniformly administered and enforced.

6 Conclusions

In evaluating the nation's prospects it is useful to look back at where we have been. The bottom line on Canada's economic performance is the well-being of its citizens. During the late 1970s and early 1980s, high rates of inflation and unemployment eroded the earnings of Canadians in real terms. Relative to 1977, for instance, the average real earnings of working-age Canadians in 1984 had deteriorated by more than 7 per cent (Table 6-1). The combination of minimal productivity growth and high inflation, followed by a severe recession, resulted in sizable layoffs and a dramatic reduction in full-time jobs, particularly in the goods-producing sectors. The unemployment rate of male heads of families with young children almost doubled, and the numbers of males and females working only part-time increased by 50 per cent. And in terms of real income, those affected the most were the young people who tend to take the lowest-paying jobs and are most prone to unemployment.

Canadians coped with the situation in various ways. Interestingly, the elderly seem to have done better than most. There was a dramatic decline in the numbers of families and individuals aged 65 and over with incomes below the low-income cut-off levels established by Statistics Canada, attesting to a more comprehensive coverage of private and public retirement schemes. Within working-age families, more and more women looked for and found work. Even at the nadir of the 1981-82 recession, female employment was increasing; for example, whereas in 1977 only 38 per cent of women with preschool children worked, by 1984 the proportion had risen to 53 per cent. But others were less fortunate: with the recession and soaring unemployment, the numbers of families and individuals dependent on unemployment insurance benefits and social assistance mounted everywhere. The worst-hit provinces, in addition to Newfoundland, were Saskatchewan, Alberta, and British Columbia, where the numbers of new jobs sagged and the incidence and duration of unemployment doubled. Poverty among working-age families and unattached individuals increased in almost every province.

The 1981-82 recession was the deepest in 50 years, and the return to Canada's historical growth path is only partly completed at this time. True, Canada has since enjoyed strong growth; unemployment rates have

Table 6-1

Average Earnings of Earners, by Age Group and Relative to All Earners, Canada, 1977, 1979, 1981, 1984

	All earners	19 and under	20-24	25-34	35-44	45-54	55-64	65 and over
				(Current dollars)				
1977	10,205	3,049	7,305	11,287	13,158	13,013	11,673	5,792
1979	11,995	3,552	8,517	13,457	15,366	15,513	14,063	6,346
1981	14,557	3,641	10,349	15,911	18,737	18,510	16,860	8,222
1984	17,049	3,158	10,030	18,130	22,343	21,620	20,004	13,257
				(1981 dollars)				
1977	15,029	4,490	10,758	16,623	19,378	19,165	17,191	8,530
1979	14,864	4,401	10,554	16,675	19,041	19,223	17,426	7,864
1981	14,557	3,641	10,349	15,911	18,737	18,510	16,860	8,222
1984	13,940	2,582	8,201	14,824	18,269	17,678	16,357	10,840
				(Index)				
1977	100	30	72	111	129	128	114	57
1979	100	30	71	112	128	129	117	53
1981	100	25	71	109	129	127	116	56
1984	100	19	59	106	131	127	117	78

SOURCE Statistics Canada, *Income Distributions by Size in Canada*, Cat. No. 13-207, for the years shown.

been edging down, and real incomes have begun to grow once again. But not for everyone. In some parts of Canada the proportion of persons unemployed for more than a year is still double that of the pre-recession years.

The Medium-Term Prospects

Although the economy has lost some momentum this year, the increase in real gross national expenditure is expected to be about 3 per cent. Growth is projected to continue to be quite strong in 1987 and 1988, with another pause in 1989. Throughout the period to 1991, the annual rate of inflation should average below 4 per cent, and real wages – spurred by productivity improvements – should grow at well over 2 per cent annually. All told, this means that, whereas Canadian workers and families lost ground in the late 1970s and early 1980s, they could be over 10 per cent better-off in real terms by 1990 than they were in 1985. This would represent a significant improvement in economic performance. Unemployment rates, however, will continue to be worrisome, as they are projected to average over 9 per cent through to 1990. After that, thanks partly to slower labour-force growth, they should drop to an average of about 7 per cent for the period 1992-96.

Because Canada is one nation, it is important that all of its regions share in the growth of real incomes. While the overall economic performance may be reasonably strong, our projections indicate that it will be unevenly spread geographically. Indeed, much of the relative growth in prosperity is already taking place in and around the principal urban centres of Ontario and Quebec, whereas low commodity and energy prices are slowing growth in the resource-based western provinces and, to a lesser degree, in the Atlantic provinces. These developments will call heavily upon the various federal and provincial programs that are designed explicitly to redress economic disparities, to spread growth and opportunities equitably, and to cushion the losses of income or employment caused by unforeseen developments or cyclical swings in world markets.

As we have seen, many Canadians have been forced to make wrenching readjustments in their living standards and also in their patterns of work. Business has also been forced to adapt to a much more competitive marketplace by cutting costs rigorously, by altering product lines, and by introducing new production techniques. This adaptation process is far from complete, but the result is an economy that is more flexible and more outward-looking.

In our past Annual Reviews we set out targets for Canada's economic performance. Our present projections suggest that the economy is moving closer to those targets. This progress is also consistent with a policy of prudent, but steady, economic management by government that is in keeping with global developments and market forces. Recall that those targets were to:

- achieve a trend rate of employment growth of between 2 and 3 per cent annually so as to reduce unemployment to between 6 and 8 per cent of the labour force by 1990 – that is, to relatively full employment, consistent with nonaccelerating inflation;

- restore for Canada a trend rate of increase in productivity, as measured by real output per employed person, of between 1.5 and 2 per cent annually;

- keep the trend rate of annual inflation down to 5 per cent or less, recognizing of course that there will be variations in inflation rates because of international and domestic factors;

- encourage a rate of domestic saving high enough to contain Canada's average dependency on net capital inflows to about 2 per cent of GNE or less;

- maintain the objectives and the substance of the existing social policies insofar as they provide affordable benefits to Canadians but improve the efficiency of their delivery systems and, where possible, fill the most urgent gaps in their applications; and

- reduce the size of the federal deficit gradually to an easily manageable level, bearing in mind the cyclicality of the economy, and thereby re-establish a sound fiscal relationship in the federal budget.

In fact, our projections suggest that while there will be large variations between provinces, Canada overall will achieve a better inflation performance than that indicated in the target, enjoy significant productivity growth, and achieve further federal-deficit reductions despite the loss of oil-based revenues. This should enable the federal government to address the separate concerns of the provinces, pursue the opportunities inherent in freer trade, and reassess the efficacy of programs now in place in the light of the new problems being posed by demographic developments, rapidly changing technologies, and intensifying global competition.

Although the broad measures of economic performance indicate increased prosperity, Canadians will be buffeted by conflicting signals from the marketplace as the shocks in relative prices work their way through the global economic system. Business will continue to face uncertainty in adjusting to changes in the costs of raw materials, interest charges, exchange rates, and trade barriers. Growth will provide a cushion to help firms adapt and provide opportunities for the unemployed to find jobs, but the competitive stresses will be intense.

In making projections for the future, it is always important to ask what could go wrong. In our view, there are three major elements of uncertainty on the international scene that could turn the current pause into a more serious downturn:

1 slower than anticipated U.S. growth linked to higher real interest rates and to commodity price pressures, including a new escalation of oil prices;

2 heightened U.S. and worldwide protectionism, and the failure of Canada-U.S. trade negotiations; and

3 financial instability and interest-rate increases arising from the inability of key countries or institutions to meet their debt burdens.

In Chapters 2 and 3, it will be recalled, we ran simulations covering the first two possibilities. If, for instance, the U.S. Federal Reserve Board should become worried about a further slide of the exchange rate of the U.S. dollar and sharply raised interest rates, this would depress real GNP and industrial production in the United States. Over the medium term, that could lower Canada's anticipated annual growth rate by about 0.5 percentage point. We have postulated that real oil prices will remain in the vicinity of US$15/barrel, with modest increases over the next few years. Should they undergo another sharp rise, however, this will result in higher inflation rates, lower productivity performance, and slower growth than projected for Canada and virtually all OECD countries.

The increasing globalization of world markets has been accompanied by opportunities for enhanced trade with the United States and within GATT. The flip side of the trade issue, however, is the spectre of rising protectionism, particularly in the United States. For instance, as we have seen, the application of such measures as a 20 per cent U.S. import surtax, along with multilateral retaliation, could have a drastic impact on Canada's growth and result in hundreds of thousands of lost jobs.

The impact of a severe international financial crisis is harder to model, but certainly if it resulted in higher real interest rates in world markets, it could abort the growth process.

It is evident, therefore, that the uncertainties and competitive turbulence in international and domestic markets are keeping Canadian managers and workers under pressure. The economic commotion tempers whatever complacency there might be, and it accounts for some sense of caution in the face of overall medium-term projections that are relatively positive. Market turbulence is a sign of dynamism, but it brings both risks and opportunities.

New Trading Patterns

In this connection it seems clear that the thrust of Canada's trading patterns will continue to favour manufacturing and services, even as the nation's primary resources remain a mainstay of the economy. Shifts on the import side also reveal a very substantial increase in manufactured finished products, equipment, and component parts.

Canada thus enters free-trade talks with the United States from a position of relative economic maturity. Even without the stimulus of free trade we project slightly stronger gains in productivity performance for Canada than for the United States. Together with low inflation, this will help to restrain unit labour costs and increase Canada's competitiveness. With today's exchange rate or even a slightly higher Canadian dollar, most Canadian producers enjoy a wage advantage over their U.S. counterparts, although there is considerable variation – in Canada, for instance, wages tend to be higher for unskilled labour and some blue-collar jobs. There are also higher nonwage labour costs in the United States.[1] And with the realignment of both the Canadian and U.S. dollar against other OECD currencies, both countries are now internationally more trade-competitive.

The achievement of bilateral free (or freer) trade with the United States could bring increases in the overall numbers of jobs in Canada, particularly if wider market opportunities were accompanied by domestic productivity improvements. A freeing-up of multilateral trade would offer similar growth benefits for Canada, although the employment impact would vary, depending on the type and scope of the concessions that are achieved.

In the Canada-U.S. negotiations now under way, Canada has several key objectives. The first is to get access to the U.S. market, freer of tariff and nontariff barriers. The second is to obtain full exemption from U.S. contingency protection action against Canadian goods and services. Third, Canada will be seeking some sort of bilateral dispute-settlement mechanism that would remove the individual issues of contention from the present slow and litigious track and speed up their early settlement. Whatever progress is made on these fronts, one thing is clear: wherever possible, the Canadian government should not let specific irritants interfere with the negotiations.

In the new round of multilateral negotiations, Canada will be seeking to bring trade in services and agriculture under the purview of GATT, while at the same time urging a more complete and satisfactory definition of subsidies than that found under the present code. Canada's bilateral and multilateral objectives are mutually compatible, but should the

bilateral discussions fail to reach agreement, that would give even further importance to the GATT deliberations.

On the domestic scene, the uncertain prospects for freer trade and the lower oil and primary prices have introduced new risks to national cohesion and new problems that are testing governments. The federal government, in particular, must tread a narrow course that will address the regional distress associated with the shock of lower commodity prices while continuing to pursue the objective of deficit reduction.

Indeed, one of the most disturbing factors on the Canadian scene today is the vulnerability of federal finances to any negative turn in the economic outlook. Hence the goal of federal fiscal policy over the next five years is to reduce this vulnerability by continuing to restrain expenditures and by undertaking careful reforms in the tax system. This challenge will be much easier to face in an environment of growth than it would be if one of the adverse international events described above were to evolve.

More Effective Government

The strength of Canada's expected competitiveness rests with the private sector. It is recognized, therefore, that while governments attend to their legislative and regulatory responsibilities, they should avoid unnecessarily impeding the genuinely competitive activities of businesses and corporations. This means revising or discarding those regulations that may have outlived their usefulness and reshaping others to bring them into line with current realities, while at the same time recognizing that the safety and security of workers and consumers remain of paramount concern.

We have seen that in the area of *financial institutions*, many of the federal and provincial regulations and regulatory regimes intended to buoy consumer and investor confidence, particularly with respect to the solvency of individual establishments, have been overcome by changing market practices. The competitive offering of alternative financial services, together with mergers and consolidations of different forms of financial institutions, have largely rendered obsolete the original regulatory division of institutions among the "five pillars."

The progress in controlling expenditures in recent budgets has been encouraging. But some of the progress in deficit reduction has come from surtaxes and from indirect-tax increases that exaggerate distortions in investment decisions and market activity. In our view, part of the long-range solution to the fiscal problem lies in eliminating tax preferences (both corporate and personal) and enlarging the tax base. In this connection Canadians cannot remain aloof from the *tax reform* that is now being considered by the U.S. Congress. Federal expenditure responsibilities (and therefore revenue requirements) in Canada will always differ from those in the United States. Provincial governments, too, have their own spending and revenue agendas. Nonetheless, with financial flows and equity capital moving freely between the two countries, Canada cannot afford to have tax structures that are so out of line with U.S. alternatives that they discourage this nation's investment effort and economic growth.

The federal government is now engaged in a review of *social policies*, and we endorse this initiative. The Council is on record as being broadly in support of the objectives inherent in Canada's set of social programs. Nonetheless, it is clear that there are areas that warrant reform and where persons or families are enduring a wide variety of human hardship and are falling through the safety net. Thus we believe that reform must have its own coherence, be introduced incrementally, and be well targeted at those most in need. We would be averse to seeing it pre-empted or put at risk in the current trade discussions. In general, it is worth noting our view that the best social policy is that of strong economic growth and full employment.

Part of social policy is Canada's *health care system*. The population of Canada is aging, and medical and hospital costs for elderly people are considerably higher than they are for others. As people grow older, they need alternative, often informal, forms of care. Much of that informal care is now family-based. But with more and more family members working — and as the numbers of aged increase and those among them grow older — it is not clear that the informal system can bear the burden. Continuing care for very aged parents can, for instance, be financially and emotionally draining; institutionalizing the elderly — a clear case of shifting private costs onto the state — thus becomes increasingly tempting.

Overall, Canada's system of health care is a relatively efficient and humane program, of which Canadians are rightly proud. In terms of cost control, our system of global budgeting is much admired. Nonetheless, there are constant pressures to increase medical expenditures, in particular those associated with the introduction of new technologies that relieve distress and prolong life. Thus there is room for controlled experimentation within the system so as to improve the efficiency of health care delivery.

Adapting the Resource Base

In looking over the medium term, we have drawn a relatively favourable future. Although there are certain areas where governments, through prudent measures, ought to trim or reshape their programs of taxation and expenditure, the present mix of federal and

provincial economic and social programs generally reflects the cumulative choices of the Canadian electorate. We have, however, singled out three areas of particular concern — areas where developments outside our borders hurt, or have the capability of hurting, particular segments of the Canadian population. These have to do with energy, agriculture, and the state of the environment.

Energy

The slide of oil prices has provided further evidence that Saudi Arabia, as the world's low-cost oil producer, remains the pivotal nation in determining where oil prices will go. The slide has hit the Alberta economy particularly hard, while Canadian consumers and most manufacturing firms in Ontario and Quebec have benefited. The producers of oil substitutes (natural gas and coal) are also hurting. It is also likely that some of the big developments — the expansion of Syncrude, the Beaufort Sea, and Hibernia — will be deferred, causing an immediate loss of local employment and further delaying these additions to Canada's diminishing domestic oil capacity.

Alberta contributed heavily — some estimates place the amount at over $50 billion (1985 dollars) — to economic stabilization in other regions of the country after 1973, through federal pricing and taxation policies. From this perspective, there are grounds for some sharing of the adjustment burden.

Looking to the future, a major consideration is the proper management of energy resources in Canada. In the case of oil, this calls for the development of supplies that can be produced economically at prevailing prices. For gas, it means measures that contribute to a better balance between supply and demand for Canadian reserves over the medium term. An important consideration in meeting these objectives is the existence of a financially healthy, resilient, and competitive upstream petroleum industry. In the competitive process, some companies may founder, but their reserves remain and will be purchased and ultimately developed by others. Such a rationalization will help to create a sound basis for the industry's future growth.

The recent elimination of the PGRT constitutes a major federal initiative to assist the industry. Although applicable to fewer than 50 of the largest producers, it had long been seen by most Albertans as an unfair federal tax, held over from the 1981 National Energy Program. Alberta is still a comparatively well-off province, and it has a multibillion-dollar Heritage Fund, assembled partly to help cope with just such a downturn in the petroleum sector as has occurred. If governments decide that further assistance is appropriate, however, the support measures that would be the most fruitful are those that would create incentives for further oil and gas exploration and development. These latter activities normally account for a significant share of employment in the industry, and renewed efforts could lead to the development of production capacity that would be economic at the higher prices expected in the 1990s.

Should additional investment incentives be introduced, they should be designed, if possible, to induce additional exploration and development, as opposed to subsidizing that which would occur without them. They should also be designed to minimize distortions among firms in the industry; if their value differs among firms, then one cannot expect to have a truly competitive bidding process for exploration rights. And, in our view, they should embody a mechanism whereby the incentive adjusts inversely with the world price of oil.

With regard to natural gas, there may be grounds now for delaying the deregulation of prices temporarily, pending further legal and regulatory changes that need to be undertaken. In the longer run, however, we favour the move to market-driven prices. We also realize that this will cause hardship for many firms and individuals, but it is important for the industry to face up to the economic realities of a competitive North American natural-gas market. As such, it is the only way to reduce Canada's surplus reserves of gas over the longer term. But we recognize that if the industry is obliged to move to market-driven prices now in the down cycle, it will naturally expect to be free of government restraints — on prices and on exports — in the next upswing.

Agriculture

As we have seen, there has been a massive build-up of world grain stocks, spurred largely by the inflationary prices of the earlier years and by the extensive production subsidies available to farmers in the United States and Western Europe in more recent years. In addition, some of the countries that normally import wheat have themselves become more self-sufficient. Canada has become heavily dependent for its grain sales on the U.S.S.R. and China; yet even China is moving towards agricultural self-sufficiency. The prospects, therefore, for a wheat-based recovery in Canada's agricultural West appear dim over the medium term. In Saskatchewan especially, but in Alberta and Manitoba as well, the drop in farm income will hurt farmers and government treasuries alike.

There and elsewhere in Canada, the decline in the relative value of farm produce has led to a drop in the value of farm lands. In the late 1970s and early 1980s, riding a tide of inflationary expectations, many farmers entered into new operations or expanded

existing operations on the strength of debt secured against the value of their farms. Many of these farmers are relatively young but now, as a consequence, face severe and prolonged debt problems, with limited prospects for their resolution. Many are already largely dependent on off-farm income or are buttressed by special financial arrangements that do not offer a more permanent solution. U.S. agricultural policy includes programs to reduce acreages and livestock. It is likely that Canadian farmers, too, will have to adjust in line with market dictates. In the longer run, if low prices persist for most agricultural products, there are questions as to how viable are the programs designed to maintain agriculture. The answers will undoubtedly vary, depending on the produce and the year-to-year stability of agricultural markets at home and abroad. The Council sees no easy or quick resolution of this dilemma. Clearly, however, it is one that governments at both the federal and the provincial level must address.

The Environment

A third area of concern in managing the resource base has to do with the increasing awareness of environmental damage and the associated costs of remedial clean-up action. Economic activity takes place within the bounds of ecological relationships. It must respect those bounds. Today, much attention turns on the failure of different jurisdictions to apply emission standards and enforce them vigorously. In matters of air pollution, for instance, the United States has been ahead of Canada in applying stricter emission standards to trucks and automobiles, but at the same time there has been an evident lack of political will to enforce strict standards on heavy industry polluters in the U.S. Midwest.

Toxic wastes are another area of growing international and domestic concern. These are relatively imperishable substances that, once lodged in the food chain, become transmissible through various hosts up to human consumption. Of particular worry are the toxic dumps on the U.S. side of the Niagara escarpment and on the Canadian side of the St. Clair River. In both cases, millions of dollars of clean-up expenditures are involved.

We are heartened by the recent improvements, in Ontario and in other provinces, in the control of the production, transportation, and ultimate disposition of toxic wastes, and in the application of more vigorous penalties to firms that are in continual violation of environmental regulation. We also applaud Ontario's success in introducing a "spills bill" and in encouraging the insurance industry to pool resources so as to make available adequate private liability insurance for firms producing and seeking to dispose of toxic wastes. We also applaud the tighter application of air emission controls in Canada, as agreed to by the federal government and the provinces.

In the long run, however, the issue is not so much that of clean-up but of prevention. Here it seems that, in many respects, protection technology is not keeping up with production technology, as new chemicals are put on the market every day. Enforcement and prosecution are largely in the hands of provincial governments, and there is a need for more vigorous action in some cases. Governments, of course, reflect the political will of their citizens in these matters, and they are all subject to budgetary constraints. Nevertheless, they must resist the temptation to use weaker environmental-protection measures or uncertain enforcement as a means of attracting new investment, to the detriment of those whose health or well-being will suffer.

Finally, we see real problems in forest management in Canada, where even members of the industry recognize that there has been inadequate reforestation in much of both eastern and western Canada. It takes a long time for forest stands to reproduce. With much of Canada's forested land under Crown ownership, it is important that provincial governments exert decisive leadership, working with industry to invest in, and encourage, sound forest-management practices.

New Strains on Confederation

The sluggish performance of the Canadian economy in the late 1970s, followed by the severe recession in 1981-82, sorely tested the resolve of Canadians. These events contributed to a substantial slowing in federal revenue growth, and that, in turn, gave impetus to a massive federal deficit with accompanying debt-service expenditure liabilities. Unemployment rates rose to double-digit levels; the average real incomes of Canadians were reduced; and for the first time in a generation we saw an increase in the proportion of working-age families living in poverty. Now, despite the stimulus that lower energy prices have given to growth in North America and elsewhere, the slide in energy and other commodity prices is threatening to exacerbate the regional stresses within this country.

Canada has a number of economic stabilizers that effectively transfer funds from financially stronger to weaker provinces, including equalization payments, Established Programs Financing (for health and education, among other things), the Canada Assistance Plan, and the unemployment insurance system. These programs have been important elements tying together the social fabric of the nation and preventing even more serious social deterioration than actually occurred. More recently the income-stabilizing strands of the Western Grain Stabilization Program, and various other farm assistance programs, have eased the

plight of farmers. Through reduced revenues from royalties and taxes, the federal and provincial governments have shared the losses incurred by the oil and gas industry. These are examples of a collective willingness to pull together in order to cushion the adjustment burdens that international and domestic price and policy shocks can impose on a medium-sized, open economy such as Canada's.

Our projections suggest that, without an early recovery of commodity prices, much of Canada's economic growth will occur in the central provinces. But Canadians there cannot be indifferent to the problems that collapsing oil and grain prices are generating elsewhere. That they should be concerned is not just a matter of neighbourliness, but it is above all a matter of a shared experience within a single nation. On the one hand, overall growth is stimulated, new jobs are created, and energy-using industries and consumers benefit from the lower prices. But on the other hand, the lower prices depress the purchasing power of producers, as well as the revenues of the producing provinces and the federal government alike; they dampen export earnings and put downward pressure on the Canadian dollar, which in turn raises the costs of imports to all parts of Canada. Other than the revenue loss, the closing-down of production and the shutting-in of wells lead to losses of employment and expertise in an area where they are needed in the long term, with associated costs to the individuals and families who leave.

Over time, some of the gains in central Canada will spill over into all provinces; still, the regional stresses and unemployment imbalances are likely to remain a problem for many years to come. Canadians have long been distressed by the severity and persistence of high unemployment rates in the Atlantic provinces and parts of Quebec, but now unemployment is becoming an equally disturbing problem in western Canada. The problem is highlighted by the increase in the numbers of working-age poor in the country. Fifty years after the Great Depression, the sight of line-ups at soup kitchens and voluntary food-distributing depots cannot but raise feelings of outrage at the senseless diminution of human dignity and ability among despairing men and women who would prefer to be productively employed.

Global and Domestic Challenges

The theme of this Review is that of accelerating change and the adjustments that must accompany change if Canada is to remain a prosperous and competitive nation. As a major trading nation, we are particularly susceptible to changes generated at the international level. Unstable commodity and energy prices are only one example; exchange-rate swings are another. The Canadian dollar has depreciated modestly against the U.S. dollar, but the slide in both currencies against the Japanese yen and the major European currencies over the past year has been in the order of 40 per cent; our terms of trade have suffered accordingly. But should the possibility of freer North American trade work out, and should additional progress be achieved in the new round of GATT negotiations, the long-run results will be beneficial for Canadians. Increasingly, however, Canadian firms will have to operate on a world-class basis, either through comparative advantage in raw materials and economies of scale or through the creation and development of specialized niches. This in turn will call for astute managerial initiatives, skilled labour input, and quality output. To cite the cliché, it means "doing things smarter."

On the broadest front, at recent economic summits the seven key western governments (so-called G-7) have recognized that while the United States can for a while provide the engine of industrial growth, it cannot do so indefinitely; the other major western economies must in turn generate a strong economic performance. Nor is it desirable to continue to deal separately with issues having to do with trade, financial flows, international borrowings, and exchange-rate alignments. It appears that these governments have in mind a more manageable coordination of policies than has been possible either separately or through more widely based organizations such as the OECD, the IMF, and the World Bank. Clearly there are matters of national sovereignty involved, and each country may have a different view of the coordination that is required. Nevertheless, there is a general recognition of the need for greater international and domestic policy coordination, albeit voluntary, among these governments.

On the domestic front, the severe drop in oil prices has knocked the federal fiscal plan somewhat off course, and the drop in wheat prices may deepen that misalignment. These are setbacks that the federal government must be prepared to absorb. In the process it is important that it keep on pushing for economy in government and for tax reform to rationalize the revenue base.

On the monetary front, over the medium term there is scope for matching fiscal prudence with a monetary policy that will encourage lower interest rates and a stronger economic expansion. This, of course, must be done with an eye to the value of the Canadian dollar, since that will affect the terms of trade, the rate of inflation, and the cost of production.

On matters of regional balance, the main message is to let the automatic stabilizers work. There may be scope for special efforts to promote adjustment, but generally that adjustment must be in keeping with the

direction of domestic and international price signals. On the energy front, in particular, it means that the long-run move must be towards market pricing and towards a restructuring of the industry in order to strengthen its debt/equity base. In general, while there is a reasonable case for cushioning the industry from the extreme volatility of the international market, the adjustment support should be carefully directed, with emphasis on the long-run competitiveness of the industry and those who are servicing it.

On a more general note, whether the problem is widespread or confined to a single sector or activity, governments must distinguish between measures that provide emergency assistance and those that offer incentives that will encourage, rather than interfere with, longer-range adjustment and competitive strength. The danger is always that what was once seen as an emergency will become a chronic condition, dependent on government subsidy or protective regulations.

The future will be increasingly conditioned by international events and the interaction of domestic and international policies at home and abroad. Nations more and more are coming to respect their global interrelationships and responsibilities, as developments in one part of Spaceship Earth impact all around. By the end of this century, 80 per cent of the world's population will be in the developing countries. To cite one observer:

> the best if not the only real prospects of revitalizing the world economy and inaugurating a new period of economic growth will come about only through transforming the immense needs of the developing countries into markets.[2]

Canada has a role to play in encouraging that transformation. And as those markets develop, they will give rise to competitive challenges and opportunities of great significance, complementing and competing with the trade orientations that Canada now enjoys.

Hence in a global sense – and also as the domestic market expands – individuals, enterprises, and communities in Canada will be adapting to new incentives and to the new realities of political, economic, and social change. This will require collective as well as individual effort: communities will have to digest the closures of plants that can no longer compete; unions and management must go beyond the usual bargaining issues to resolve industrywide problems and to seize new opportunities for expansion and employment. Canadian workers will also likely have to become more occupationally mobile, and possibly more geographically mobile. This raises questions of pension portability and of the adequacy of the technical and educational skills of the work force. Most of all, the new realities will require that governments keep to medium-term agendas, supporting changes that are consistent with the ability of Canadians to compete globally, while ensuring the highest possible level of social care and personal opportunity for Canadians.

Some years ago a U.S. folk balladeer, long scarred by memories of the unemployment, droughts, farm foreclosures, business failures, and miseries of the 1930s, but still alive to the human spirit and strength of character that held families and communities together at that time, made popular the song "The Times, They Are A-Changin'." The times will always be 'a-changin'. Today, our horizons extend much further than those of our forebears, and the horizons of our children and our children's children will extend further still, in matters scientific, political, economic, and social. The advance of knowledge is universal; using that knowledge to feed and protect the human body and the human spirit is imperative. Canadians are part of that worldwide process through their enterprise and through their concern for the betterment of life here and abroad. Indeed, for Canadians generally, adjusting to the changing times will bring exhilarating opportunities and sobering challenges.

Comment

by Raymond Koskie, Kalmen Kaplansky, and Diane Bellemare

It appears that the thrust of Chapter 3 of the Annual Review is pro free or freer trade with the United States. However, before deciding upon this position, it does not appear that the Council has adequately examined and considered the many negative and possibly ruinous consequences that could result for employers and workers in a number of industries. Although the Review mentions the possibility of persistent and intolerable unemployment as a result of freer trade, there are no recommendations as to how this might be avoided or how workers and their families should adjust to this traumatic change. Many segments of organized labour have been rather vocal in highlighting these problems to the federal government, and we must therefore come to grips with these issues and not deal with them in generalities. We look forward to a future in-depth report of the Council that will examine these and other issues in greater detail.

Further, the Annual Review does not sufficiently deal with what might happen if trade negotiations with the United States fail, as could well happen, nor does it deal with how, under these circumstances, the federal government could best develop a basic strategy for growth in the Canadian economy.

Finally, the report fails to deal adequately with one of the most important issues facing Canada today (if not *the* most important one) – namely, the massive and stubborn rate of unemployment and the effective means of coping with it.

Appendixes

A The Base Case: Major Assumptions, and Risks and Uncertainties

Major Assumptions

The base-case outlook is highly sensitive to the economic assumptions upon which it is based. For a small, open economy such as Canada's, the outlook for economic growth, inflation, and interest rates in the United States and elsewhere plays a vital role in determining medium-term prospects. Similarly, the assumptions about international oil prices, domestic monetary and fiscal policies, labour force growth, and the outlook for productivity are also important in shaping the medium-term path of the Canadian economy. In this appendix we review some of the principal economic assumptions that underlie the base-case scenario presented in Chapter 2.[1]

External Economic Conditions

During the first six quarters of the current recovery (from the first quarter of 1983 to the second quarter of 1984), the U.S. economy grew much more strongly than the Canadian economy. Furthermore, its recovery was much more broadly based, as real final domestic demand and real GNE grew at the same pace. In contrast, during the last six quarters, U.S. growth decelerated sharply, while growth in Canada remained robust. At the same time, the degree of balance in the U.S. recovery deteriorated dramatically because of the rapid increase in the trade deficit. For the U.S. economy a sharp drop in inventory accumulation and the widening trade deficit were the two principal reasons behind the marked slowdown in output growth – from 6.5 per cent in 1984 to only 2.2 per cent in 1985. In contrast, final domestic demand continued to grow at a strong pace. The slowdown in productivity was equally dramatic, with manufacturing productivity registering strong gains relative to the rest of the economy. Another bright spot was the strength in business fixed investment, although it grew at a slower rate than in 1984 (see Table 2-1).

Last year, short-term interest rates dropped some 300 basis points, with longer-term rates following at a somewhat slower pace. This lent impetus not only to business investment spending but also to such interest-sensitive areas as spending on consumer durables and housing.

Data for the first half of 1986 suggest that the U.S. economy has shown some improvement compared with the rather dismal results reported for the fourth quarter of 1985. More important, the plunge in the value of the U.S. dollar since February 1985 (about 30 per cent) has provided some pressure in turning the U.S. trade account around. While there remains some concern about the impact of the depreciation on the cost of living, the United States has continued to consolidate the substantial reduction in its inflation rate achieved earlier. Moderate increases in unit labour costs, weak commodity prices, and the collapse of oil prices are expected to produce further progress on this front, at least in the near term.

Despite legal challenges, the Gramm-Rudman-Hollings Amendment reflects an important change in the U.S. political will to reduce the deficit. It has already had a noticeable impact on congressional amendments to appropriations bills. It is not clear just how the process will work itself out when the deadline for congressional action is reached on October 15, but chances are better than ever before that the deficit will be reduced from status-quo projections. While these measures would depress U.S. growth in the short term, any move to diminish this festering sore would lead to a much more favourable pattern of international capital flows and would therefore help to stabilize currency and interest-rate fluctations.

Given that more than 75 per cent of our trade is with the United States, the outlook for the U.S. economy is the single, most important external element that bears on the Canadian medium-term projection. The U.S. recovery, which began in early 1983, is expected to continue over the medium term at a moderate pace of about 3 per cent, with only one soft spot in real growth just prior to the turn of the decade (see Table 2-2). As a result, the unemployment rate in the United States is expected to decline gradually to about 6 per cent by the early 1990s, averaging about 6.5 per cent over the projection period.

The upward pressure on wages and prices resulting from the depreciation of the U.S. dollar and increased capacity utilization will be ameliorated to a large extent by the effects of lower energy prices, producing a favourable outlook for inflation and interest rates. The short-term interest rate is projected to average about 7.3 per cent during the period 1986-96 – 170 basis points below the average for the preceding decade.

Coupled with concern over the government deficit is uncertainty regarding balance-of-payments developments and the dollar. Continuing strength in investment performance, above-average real interest rates, large and rising budget and current-account deficits, and the strength of the dollar have all been part of the monetary/fiscal policy mix in the United States since 1980. With a decline of about 30 per cent in the U.S. dollar during the past year, the U.S. current-account balance is expected to improve gradually during the projection period. Hence the current protectionistic tendencies in the United States are expected to abate and improve the outlook for freer trade.

The stability in our U.S. outlook bodes well for growth in the economies of Canada's other trading partners. Industrial production in these countries is expected to average close to 3.2 per cent during the 1986-96 period. The performance of individual countries will vary, depending upon their reliance on imported oil, with Japan lying well above the average and the United Kingdom, Italy, and West Germany clustering below. With declining interest rates and gradual control of the U.S. deficit, investment performance in several of these countries is anticipated to continue at quite a strong pace. Inflation will remain moderate, dampened by the reduction in oil and other commodity prices. Import and export prices are expected to recover somewhat from their present depressed levels; however, no real gains will be experienced in commodity prices during most of the projection period. Given these factors, a highly competitive trading environment will continue to exist. With the movement towards a new round of multilateral trade negotiations, strong protectionistic tendencies in many countries could be abated and market forces allowed to re-emerge firmly in the world trading environment.

Energy

During the last year, significant changes have taken place on the world energy scene – changes that have had a dramatic impact on all countries whether they be producing or consuming economies. In the first three months of 1986, the world price of crude petroleum fell from over US$27 to about US$10 on the spot market. While the actual price to consumers will vary, depending upon the make-up of crude petroleum sources, a considerable reduction in prices is evident. The severe surplus capacity of both OPEC and non-OPEC producers, aggravated by the decision of one major OPEC producer (Saudi Arabia) to return to higher production levels, led to this price decline. Where the price level will stabilize is unknown. In the base case we have assumed that the international price will average US$15 in 1986 and 1987. It will then increase by 5 and 3 per cent in real terms during 1988 and 1989, respectively, and slow to an average of 1 per cent in real terms during the remainder of the period. Since the Western Accord now permits the Canadian wellhead price of oil to track world levels, the price for all types of production follows the path of the international price, less appropriate transportation costs.

While the Western Accord eliminated taxes such as the petroleum compensation charge and the Canadian ownership charge, a motive-fuels excise tax was implemented and then increased in a subsequent budget. Since the price at the pump includes transportation costs and the excise tax in addition to the wellhead price, the domestic price is higher than the international price. With the recent Agreement on Natural Gas Markets and Prices (signed on October 31, 1985), natural gas prices will move approximately in step with world oil prices once the agreed transition period has been completed (by November 1, 1986). At that time, pricing will be subject to renegotiation, not only for new sales but also for gas sold under existing contracts. We have assumed that natural-gas market prices to the consumer will continue to be in some way tied to oil prices, given the nature of the two fuels. With crude oil prices at $15, the natural gas producer will have a very narrow margin of profit, given the high transportation costs of gas. In addition, the gas export price, which cannot fall below a regional reference price, becomes highly competitive with projected U.S. prices. We have assumed that the export price will range between the U.S. price (in Canadian dollars) and the regional domestic reference price. These energy price reductions will severely affect both the supply of and demand for oil and gas.

Lower oil and gas prices have serious impacts on our supply outlook for the industry:

- In our assumptions, declining oil supplies from conventional reserves will continue to be augmented by enhanced oil-recovery techniques at a somewhat reduced rate of supply. Production from these sources will fall by over 10 per cent in 1986 and remain at this lower level throughout the period.

- Oil sands production is reduced drastically because of the aborted Syncrude expansion, as is the development of the proposed Petro-Canada mining project north of the Syncrude plant. Though the lower prices will bring severely reduced returns to Syncrude producers, it is assumed that the losses will be absorbed in a climate of constraint related to provincial and federal royalty and tax relief. Activity at other facilities such as Cold Lake is reduced to minimal research levels, with no onstream production.

- Frontier exploration and development are assumed to become uneconomical. Both the Venture and Hibernia undertakings are suspended, as is exploration in the North. Thus the potential produc-

tion of both oil and gas in frontier areas falls from an ever-increasing share of supply to zero.

- As a result of these various cutbacks, oil production by the end of the projection period is reduced by over 30 per cent from levels postulated six months ago, and gas production falls by half of that amount.

Domestic and international consumers respond to the lower energy prices in the following manner:

- The pattern of decline experienced in oil demand over the past several years is arrested, and demand stabilizes by the end of the period. Crude oil exports of mostly heavy crude are reduced from present levels but remain strong, at close to 60 million barrels per year throughout the period, despite cutbacks in heavy-oil production.

- Competition between fuels increases, and the pace of total domestic demand for natural gas slows somewhat from recent years, averaging close to 1.5 per cent during the period 1987-96. With the collapse of negotiations for liquid natural gas exports to Japan, gas exports flow solely to the U.S. market, peaking in 1989-90. However, we have not provided for the completion of the Alaska Highway gas pipeline beyond the present prebuild stage. Despite the increased interfuel competition, we assume that utilities sustain their 1985 level of real investment throughout the period in order to maintain their present production capabilities.

This profile for crude petroleum supply and demand causes buyers to shift to offshore sources.

- In the base case prepared for our Twenty-Second Annual Review, oil imports were expected to drop to close to zero by 1995. More recent analysis suggests that imports will exceed 130 million barrels per year by 1995.

- In 1985, Canada was a net exporter of over 70 million barrels per year of crude petroleum. By 1995, in our scenario, the country is once again a net importer of some 70 million barrels of oil. In terms of total energy, the country remains a net exporter because of the gradual resumption of the increased penetration of the highly competitive U.S. natural-gas market.

The completion of the TQM (TransQuebec-Maritime) pipeline and associated laterals in eastern Canada will result in considerable conversion to natural gas sources and intensify the competitive environment between fuel types. In the new base case, real investment in the energy sector is well below the levels projected in the base-case outlook of the Twenty-Second Annual Review – with the gap increasing from about $900 million in 1986 to over $3 billion in 1990. More than 50 per cent of this drop occurs in the oil and gas industry.

Domestic Fiscal and Monetary Policy

The central thrust of fiscal policy at all levels of government in Canada is, and has been for some years past, to restrain public expenditure, put in place new fiscal measures, and thus bring budget deficits under control. In the last two budgets, the federal government took concrete steps to accelerate its deficit-reduction strategy over the medium term through a combination of expenditure cuts and tax increases. Provincial governments have also taken similar measures.

Our current base case incorporates the existing legislation set out in past federal budgets, including the measures introduced in the budget of February 26, 1986. All provincial budgets, as of mid-summer 1986, are also taken into account. But the base-case outlook for inflation, interest rates, the international price of oil, output, and employment plays a crucial role in determining the actual outcome of the deficit-reduction strategy over the medium term because of the influence that these factors have on the various revenue and expenditure categories.

In accordance with the overall restraint in the government sector, public-sector wages are constrained to grow at the same rate as the consumer price index, and other government prices are assumed to increase at 3.6 per cent per year over the projection period. We have also assumed a continuation of the present restraint in the purchases of goods and services (in real terms) to varying degrees by all levels of government.

As for monetary policy, the Bank of Canada is assumed to continue with its present policy of encouraging lower interest rates and maintaining stability in exchange markets, without risking the hard-won gains on the inflation front. As a result, real interest rates in Canada are expected to move more or less in tandem with the U.S. rates.

Determinants of Potential Growth

The medium-term outlook for growth in output, employment, and real income depends critically upon the growth potential, the gap between the actual and the "full-employment" unemployment rate (this gap is closely related to the amount of slack in the economy), and the aggregate demand conditions both at home and abroad. The base-case prospects for potential growth, in turn, depend on the growth performance of two key variables: the labour force and productivity.

Changes in the labour force result from changes in the size and age distribution of the working-age population and from changes in the labour force participation rates. In the 1970s more than two-thirds of the increase in the labour force was due to additions to the working-age population, while the remainder

was attributable to increases in participation rates, primarily as a result of a very large increase in female participation. Over the projection period, the decline in the birth rate since the early 1960s and the slowdown in net immigration are expected to reduce the rate of growth of the source population from over 2 per cent during the period 1960-85 to about 1 per cent per year. Consequently, over the next 10 years the labour force is expected to increase by only 1.5 per cent per annum. Moreover, the labour force will be aging, and the share of females will continue to trend upward. In contrast, the share of young people will decline steadily.

Growth in productivity (output per employed person) is the fundamental determinant of long-term improvements in real incomes and the standard of living. During the 1960s, aggregate labour productivity in Canada increased by about 2.4 per cent per year (Table A-1). Like all other industrialized countries, however, Canada experienced a dramatic slowdown in productivity and real incomes in the 1970s. The reasons for this sharp drop in all sectors of the economy during the post-1973 period are not well understood, but research done at the Council and elsewhere suggests that most of the productivity slowdown is related to three developments: 1) the slowdown in world aggregate demand and the associated drop in capacity-utilization rates, 2) the dramatic increase in real energy prices, and 3) interindustry shifts in output and employment.

This diagnosis gives rise to optimism about the medium-term prospects for growth in productivity and living standards. In view of improvements in capacity-utilization rates and the age composition of the labour force, the marked decline in inflation and real energy prices, strong and stable output growth, modernization, specialization, scale economies, the introduction of new technology, and increased competition from abroad, the base case contains significant improvement in productivity, averaging 1.4 per cent per year. While this is fairly strong growth, it is still below the average increase experienced prior to 1973. Because improvements in total factor productivity account for over 70 per cent of the growth in labour productivity, a different outcome for total factor productivity would also bring changes in the results for labour productivity.[2]

Table A-1

Change in Output, Employment, and Productivity,[1] by Industry, Canada, 1961-96

	Actual change			Projected change	
	1961-70	1971-80	1981-85	1986-91	1992-96
			(Per cent)		
Change in output:					
Primary sector	3.9	1.7	0.7	2.8	3.2
Manufacturing	5.8	3.8	1.6	3.4	3.5
Construction	4.1	3.0	-1.2	2.6	3.9
Services	5.3	4.8	2.7	3.6	4.2
All sectors	5.0	4.1	2.3	3.0	3.7
Change in employment:					
Primary sector	-2.2	0.7	0.2	0.5	1.0
Manufacturing	2.3	2.0	-0.7	0.3	0.4
Construction	2.0	2.8	-1.3	1.0	2.8
Services	4.0	3.7	2.0	2.6	2.3
All sectors	2.7	3.0	1.1	1.9	1.9
Change in productivity:					
Primary sector	6.1	1.0	0.5	3.3	2.2
Manufacturing	3.5	1.8	2.3	3.1	3.1
Construction	2.1	0.2	0.1	1.6	1.1
Services	1.3	1.1	0.7	1.0	1.9
All sectors	2.4	1.1	1.2	1.1	1.8

1 Output per person employed.
SOURCE Economic Council of Canada, CANDIDE Model 3.0, August 1986.

In summary, our base-case projection implies a healthy growth potential for the Canadian economy over the medium term – around 3 per cent per annum. Moreover, in view of the substantial amount of slack, the economy could grow significantly above potential during the projection period, provided there is an improvement in demand conditions. In part, this is what has led us to anticipate growth of about 3.3 per cent in the medium run.

Risks and Uncertainties

The base-case projection is a conditional forecast, based on our best judgment about the expectations and psychology of consumers and investors, domestic policies, commodity prices, and international economic conditions. There remains a considerable amount of uncertainty in a number of important areas, however: world oil prices, productivity, interest rates, the pace of recovery in business investment, and the value of the Canadian dollar. In this section of the appendix we shall examine these issues in some detail and give an assessment of the impact of alternative outcomes for these key variables on the medium-term outlook for Canada.

Oil Prices

Falling oil prices dominate the world economic outlook. Since November 1985, the spot price of crude oil has plummeted from over US$28 to below US$10 a barrel. But prices remain extremely volatile, and the spot price in no way wholly reflects the actual market price.

Even at $10 a barrel, oil prices in real terms are only 50 per cent below their average level in 1974, immediately following the first oil price shock, and one-and-a-half times above their level in early 1973. At its peak in 1981, the real price of oil was nearly seven times its early-1973 level, prior to the first oil price shock. The principal cause of the collapse in oil prices was the reversal by Saudi Arabia, the largest OPEC producer, of its long-standing policy of stabilizing prices by restricting output. Increases in Saudi Arabian output, by at least 2 million barrels per day, combined with higher output from the other producing countries, resulted in an excess supply of about 2 to 3 million barrels per day, causing the price collapse.

Whether prices stabilize around their current levels – that is, between US$12 and US$15 a barrel – or rise over the medium term depends upon the actions of the oil-producing countries, especially Saudi Arabia. If the recent struggle for expanded market shares continues, prices could remain around $10 during the projection period. On the other hand, if OPEC is successful in restricting its output to about 16 million barrels per day, prices could rise to US$20. In view of Saudi Arabia's unwillingness to incur huge revenue losses and of the lack of cooperation from the other producing nations in restricting their output, in the base-case scenario we have assumed an international price for oil (delivered to Montreal) of US$15 in 1986 and 1987, thereafter rising gradually at an average of 1 percentage point above the inflation rate.

In an effort to analyse the impact of alternative oil-price assumptions on the Canadian economy, the two following scenarios are examined (see Table A-2):

Table A-2

Alternative Scenarios for Selected Indicators, Canada, 1986-91

	1986	1987	1988	1989	1990	1991	Average 1986-91
				(Per cent)			
Change in real GNE:							
Base case	3.0	4.1	3.2	1.3	2.8	3.9	3.0
Lower oil prices	2.9	4.4	3.6	1.4	2.8	4.0	3.2
Higher oil prices	3.1	3.5	2.0	1.0	3.2	4.4	2.9
Lower U.S. growth	2.6	3.5	2.7	0.6	2.1	3.4	2.5
Higher U.S. growth	3.5	4.7	3.7	1.9	3.5	4.3	3.6
Lower productivity growth	3.0	3.9	2.8	0.8	2.3	3.5	2.7
Higher productivity growth	3.1	4.3	3.6	1.8	3.3	4.4	3.4
Lower investment	2.4	3.8	3.2	1.0	2.6	3.6	2.8
Lower value for the Canadian dollar	3.1	4.2	3.3	1.4	2.9	4.0	3.2
Higher value for the Canadian dollar	2.9	4.0	3.2	1.2	2.7	3.9	3.0
Change in consumer price index:							
Base case	3.2	2.5	2.8	3.8	3.8	3.5	3.3

Table A-2 (concl'd.)

	1986	1987	1988	1989	1990	1991	Average 1986-91
				(Per cent)			
Lower oil prices	2.6	1.8	2.1	3.3	3.4	3.3	2.8
Higher oil prices	3.2	5.1	4.9	5.3	4.6	4.1	4.5
Lower U.S. growth	3.3	2.7	3.1	4.2	4.1	3.6	3.5
Higher U.S. growth	3.1	2.3	2.5	3.5	3.5	3.5	3.1
Lower productivity growth	3.3	2.7	3.4	4.7	4.8	4.7	3.9
Higher productivity growth	3.1	2.3	2.2	3.0	2.9	2.5	2.7
Lower investment	3.2	2.3	2.6	3.7	3.6	3.2	3.1
Lower value for the Canadian dollar	3.7	3.4	3.4	4.4	4.4	4.0	3.9
Higher value for the Canadian dollar	2.7	1.5	2.2	3.2	3.3	3.1	2.7
Level of unemployment rate:							
Base case	9.8	9.4	9.5	9.5	9.0	8.6	9.3
Lower oil prices	9.9	9.6	9.4	9.2	8.6	8.2	9.2
Higher oil prices	9.8	9.5	8.8	9.1	9.0	8.8	9.2
Lower U.S. growth	9.9	9.7	9.9	10.1	9.6	9.5	9.8
Higher U.S. growth	9.7	9.1	9.1	9.0	8.3	7.7	8.8
Lower productivity growth	9.8	9.5	9.3	9.4	9.0	8.7	9.3
Higher productivity growth	9.8	9.4	9.7	9.7	9.0	8.5	9.4
Lower investment	10.0	9.9	10.0	10.0	9.5	9.3	9.8
Lower value for the Canadian dollar	9.8	9.3	9.3	9.3	8.8	8.4	9.2
Higher value for the Canadian dollar	9.8	9.5	9.7	9.7	9.1	8.8	9.4
Change in federal deficit:							
Base case	-5.7	-4.7	-3.8	-3.6	-3.2	-2.5	-3.9
Lower oil prices	-5.8	-4.7	-3.7	-3.5	-3.1	-2.4	-3.9
Higher oil prices	-5.7	-4.4	-3.7	-3.6	-3.4	-2.6	-3.9
Lower U.S. growth	-5.8	-5.0	-4.3	-4.3	-4.1	-3.6	-4.5
Higher U.S. growth	-5.5	-4.4	-3.4	-3.0	-2.3	-1.6	-3.4
Lower productivity growth	-5.7	-4.7	-3.8	-3.7	-3.3	-2.7	-4.0
Higher productivity growth	-5.7	-4.7	-3.8	-3.5	-3.0	-2.3	-3.8
Lower investment	-5.8	-4.9	-4.0	-3.9	-3.5	-2.9	-4.2
Lower value for the Canadian dollar	-5.6	-4.6	-3.7	-3.4	-3.0	-2.3	-3.8
Higher value for the Canadian dollar	-5.7	-4.8	-4.0	-3.8	-3.4	-2.8	-4.1
Change in current-account balance:							
Base case	-0.9	-0.3	-0.2	-1.0	-0.4	-0.3	-0.5
Lower oil prices	-1.3	-0.6	-0.7	-1.5	-0.9	-0.7	-1.0
Higher oil prices	-0.8	0.1	0.2	-0.4	-0.2	-0.3	-0.2
Lower U.S. growth	-1.2	-0.6	-0.7	-1.6	-1.0	-0.7	-1.0
Higher U.S. growth	-0.6	0.0	0.2	-0.4	0.2	0.2	-0.1
Lower productivity growth	0.9	-0.2	0.0	-0.7	-0.1	0.0	-0.3
Higher productivity growth	-1.0	-0.5	-0.4	-1.3	-0.7	-0.5	-0.7
Lower investment	-0.6	0.1	0.3	-0.6	0.0	0.4	-0.1
Lower value for the Canadian dollar	-0.8	0.2	0.7	-0.1	0.4	0.4	0.1
Higher value for the Canadian dollar	-1.0	-0.9	-1.2	-1.9	-1.3	-1.0	-1.2

SOURCE Economic Council of Canada, CANDIDE Model 3.0, August 1986.

- In the first simulation, we assume an average price of US$10/barrel from mid-1986, followed by a gradual rise of an average of 1 per cent per year in real terms.

- In the second alternative, we examine the impact of $20 oil on the Canadian economy, starting in 1987. Thereafter, oil prices are assumed to follow the base-case growth path.

The impact of lower oil prices on the Canadian economy is generally positive: they improve productivity, raise real incomes, increase output and employ-

ment, and lower inflation and interest rates. But lower prices will accentuate the uneven nature of the current recovery across regions and industries. The producing provinces in general, and Alberta in particular, are expected to face severe economic problems in the medium term. Since Canada is a net exporter of oil and gas, the terms-of-trade deterioration, in combination with increased levels of oil imports, will worsen the current-account position, putting downward pressure on the Canadian dollar. In summary, lower oil prices will have a positive effect on growth, real incomes, inflation, and interest rates in industrialized countries, including Canada. But adjustment problems (for example, the debt-overhang problem of Mexico) in the oil-producing nations could limit the benefits for the global economy.

In contrast, higher oil prices will lower output, employment, and real incomes, and worsen the prospects for inflation and interest rates. But they will improve the medium-term outlook for the current-account balance and the Canadian dollar, moderate regional disparities, and improve the outlook for the oil and gas industry.

Productivity Growth

As mentioned earlier, all the industrial economies, including Canada, have experienced a dramatic slowdown in productivity in the post-1973 period. In Canada, aggregate labour productivity growth declined from about 2.5 per cent per year to a mere 0.1 per cent during the period 1974-82. In the three years from 1983 to 1985, however, productivity growth picked up significant momentum, on average increasing by more than 2 per cent per annum.

Our base-case projection displays optimism about the medium-term prospects for productivity and living standards. Labour productivity is expected to grow by 1.4 per cent per year. As indicated earlier, improvements in aggregate total factor productivity account for over 70 per cent of the growth in labour productivity.

However, many observers are divided over the question whether the recent improvement in productivity is just a cyclical effect of the recovery or a secular phenomenon. To examine the macroeconomic effects of alternative productivity-growth assumptions, we have run two additional scenarios (see Table A-2):

- In the first simulation, total factor productivity growth is assumed to average 0.5 per cent per year above the base-case outcome, or 1.5 per cent per year. Consequently, output per employed person is assumed to increase by 1.8 per cent per year instead of the 1.4 per cent in the base case.

- In the second alternative, the growth in total factor productivity is assumed to average 0.5 per cent – 0.5 percentage point below the base-case level of 1 per cent per year. This in turn implies that the growth in labour productivity declines from 1.4 per cent in the base case to 1.0 per cent.

An improved outlook for productivity brightens the medium-term prospects for output and real incomes, lowers the inflation rate, and improves the government budget balance. The only unfavourable outcome is the slight deterioration in the current-account balance. Here, the adverse impact of a substantial improvement in real income on imports, and thus on net exports, marginally exceeds the positive consequences of improved competitiveness.

On the other hand, lower productivity growth slows the rate of increase in the standard of living, increases the inflation rate, and worsens the government budget balance.

Interest Rates and the Outlook for the United States

Because of improvements in the inflation picture and of the mix of monetary and fiscal policies, both at home and abroad, nominal interest rates have fallen dramatically from their record peak levels in 1981. But real interest rates (the nominal rates adjusted for inflation) are still very high by historical standards and are projected to remain so, more or less, during the medium term (see Table A-3), severely constraining the prospects for business investment and reducing budget deficits.

In the base case, real interest rates mirror developments in the United States. Uncertainties about U.S. fiscal policy, the impact of the depreciation of the U.S. dollar on inflation, the Federal Reserve's response to that, and the serious debt problems of developing countries in general (and of the oil-dependent countries in particular), resulting from an unsettled outlook for commodity prices, are expected to keep long-term real rates – the key determinants of business investment – at a level of 400 to 500 basis points during the projection period.

But the medium-term outlook for real interest rates could improve significantly. They could average at significantly lower levels than those projected, because of such factors as the continued further weakness in oil and other commodity prices, better productivity performance in the United States, some easing of monetary restraint in that country, and the continued initiatives of the "big five" countries to bring down the value of the U.S. dollar in an orderly fashion and to ease the serious problems of debt-ridden countries. On

Table A-3

Change in Nominal and Real Interest Rates, Canada and the United States, 1961-96

	Short-term interest rate				Long-term interest rate			
	Nominal		Real[1]		Nominal		Real[1]	
	Canada	United States	Canada	United States	Canada	United States	Canada	United States
	(Per cent)							
Actual:								
1961-70	5.5	5.0	3.0	2.7	6.7	5.5	4.2	3.2
1971-80	8.6	7.6	0.8	1.3	10.0	8.9	2.2	2.6
1981-85	12.5	10.7	3.6	3.6	14.0	13.3	5.2	6.1
Projected:								
1986-91	8.6	7.3	5.2	3.8	9.7	9.2	6.4	5.7
1992-96	7.7	7.4	4.0	2.9	8.7	8.5	5.0	4.1

1 A three-year moving average of past inflation rates (GNP deflator) is used.
SOURCE Economic Council of Canada, CANDIDE Model 3.0, August 1986.

the other hand, real interest rates could rise significantly worldwide if U.S. monetary policy were to tighten in response to upward pressure on the inflation rate, stemming from a strengthening of world commodity prices, poorer U.S. productivity performance, and wage pressure, along with severe uncertainties about the debt problems of the developing oil-producing countries (e.g., Mexico, Nigeria, and so on) and their impact on the stability of world financial system.

To examine the sensitivity of the base case to assumptions about U.S. interest rates and other key U.S. indicators (inflation and productivity), we have developed two alternative scenarios: 1) in the scenario based on higher U.S. growth rates, interest rates are assumed to average 150 basis points below the base-case levels as a result of more favourable inflation and productivity developments; 2) in contrast, the alternative scenario (lower U.S. growth) assumes interest rates to average 150 basis points above the projected levels from 1987 onwards, with less favourable inflation and productivity developments. The more favourable case also includes an improved picture for the U.S. federal deficit, while the less favourable case includes a worse performance for the U.S. deficit compared with the base case.

Higher U.S. growth, with lower real interest rates, increases the average growth rate by 0.6 percentage points over the period 1986-91. It also produces a substantial improvement in the medium-term outlook for business investment and the federal budget balance. Moreover, the big productivity advances improve inflation performance (see Table A-2).

In contrast, the lower U.S. growth case, with higher real interest rates, reduces the growth in output and employment, increases the unemployment rate, and widens the government deficit.

The Canadian Dollar

Since 1976 the value of the Canadian dollar has declined – from US$1.01 to US$0.73 in 1985, a depreciation of about 38 per cent. Over the last five years the Canadian dollar suffered severe downward pressure in exchange markets, losing substantial ground to the U.S. dollar.

The major determinants of changes in the value of the Canadian dollar are: inflation performance relative to that of our trading partners, especially the United States; real interest rate differentials between the United States and Canada; the current-account balance; net capital inflows; and investor confidence in the Canadian economy. Over the short term, however, speculative forces, direct intervention in the exchange market by the monetary authorities, and misperceptions about Canadian economic performance relative to that of its trading partners could also significantly influence the value of the Canadian dollar vis-à-vis other currencies, especially the U.S. dollar.

Our analysis suggests that most of the depreciation between 1976 and 1983 was in part due to Canada's poor inflation performance. The more recent problems of the Canadian dollar might be attributed to the following factors: a deterioration in the current-account balance; passage of the Gramm-Rudman-Hollings Amendment south of the border; perceived

inaction on the deficit front in Canada; the oil price collapse and its implications for growth performance relative to that of our trading partners and for the current-account balance in the medium term; and the influence of speculative forces and misperceptions about the Canadian economy.

In recent years, the continuing downward pressure on the Canadian dollar has markedly increased the spread between the Canadian and U.S. short-term interest rates. These higher interest rates have constrained the recovery in consumer durables, business investment, and residential construction. They have also increased budget deficits.

In the medium term, improvements in government deficits, in productivity, and in the inflation rate are expected to result in a stable value for the Canadian dollar. But a persistently large deficit on Canada's international service account, in combination with the loss in export revenue resulting from the oil price collapse and weak prices for primary products, could weaken the outlook for the Canadian dollar over the projection period. On the other hand, an improvement in inflation performance and in the federal budget balance could increase the value of the Canadian dollar above the base-case level. To evaluate both the upside and downside risks on this front, we examine two additional cases in which the Canadian dollar is assumed, first, to average 5 per cent higher and then 5 per cent lower than the base-case outcome when compared with the U.S. dollar (see Table A-2).

A lower value for the Canadian dollar adds stimulus to the economy in the short term by increasing exports and discouraging imports. But the gains in output, employment, and the current-account balance come at the cost of a much higher inflation rate. Moreover, over the long term, the negative impacts of wage and price acceleration on interest rates and on consumer and investor confidence are likely to dominate, resulting in lower output and employment.

In contrast, a higher value for the Canadian dollar depresses output and employment in the short term, worsens the current-account balance, and lowers the average inflation rate.

Investment Outlook

The performance of business investment has been a drag on the Canadian economy, despite three years of strong economic growth, increased capacity utilization, and improvements in the corporate cash flow and in equity markets. In the United States, by contrast, investment expenditure grew substantially faster than aggregate output (see Table 2-1). Since a solid recovery in investment is crucial for the expansion of the productive potential of the Canadian economy, the recent investment performance is a matter of concern.

This disappointing performance can be attributed to an unusual set of factors: very high real interest rates; excess capacity; and the more recent weak prices for resource-based products, especially oil and gas. As a result, the share of investment in GDP declined from 24.2 per cent in 1981 to a mere 20.7 per cent in 1985. The slowdown occurred across all sectors and affected both types of investment - construction, and machinery and equipment.

The base-case outlook calls for a modest recovery in business investment; however, its share in real GNP is expected to remain at historically low levels. This weak performance is consistent with high real interest rates, depressed commodity prices, excess capacity in primary industries, only a mild recovery in utilization rates, and a greater recognition of the need to improve total factor productivity.

But the recent collapse in oil prices, in combination with a gloomy outlook for nonoil commodity prices and high real interest rates, could result in a weaker investment recovery than that suggested in the base case.

A weaker investment outlook would produce lower growth, a higher unemployment rate, and larger government deficits. But the depressed outlook for both product and factor markets resulting from investment performance that is worse than that in the base case would improve the wage/price dynamics in the medium term (see Table A-2).

B Tables to Chapter 3

Table B-1

Trends in World Trade and Commodity Prices, 1960-85

	1960	1970	1980	1981	1982	1983	1984	1985
Shares of world trade[1] by country or region:								
				(Per cent)				
Merchandise exports								
Developed economies	66.9	71.6	63.2	62.7	61.6	63.9	64.6	65.5
United States	15.9	13.8	11.1	11.8	11.3	11.1	11.4	11.1
Canada	4.3	5.1	3.3	3.5	3.6	4.1	4.6	4.5
European Economic Community	32.8	35.8	32.8	30.5	30.2	31.3	30.1	33.0
Japan	3.2	6.2	6.5	7.7	7.4	8.1	8.9	9.1
Developing economies	21.1	17.8	27.9	28.1	26.2	25.0	24.8	24.1
OPEC	6.1	5.7	15.4	14.2	11.8	9.9	8.9	8.1
Other	15.0	12.1	12.6	13.8	14.4	15.2	15.9	16.0
Merchandise imports								
Developed economies	66.0	72.4	69.4	66.5	65.7	65.9	67.7	67.9
United States	11.2	12.2	12.5	13.4	13.3	14.3	17.1	17.7
Canada	4.2	4.1	2.9	3.3	2.9	3.3	3.7	3.8
European Economic Community	33.6	35.9	35.2	31.4	31.2	31.0	29.8	32.2
Japan	3.3	5.8	6.8	7.0	6.9	6.7	6.8	6.4
Developing economies	21.8	17.0	21.6	24.3	24.8	24.0	22.4	21.5
OPEC	4.0	3.0	6.1	7.0	8.3	7.7	6.6	6.0
Other	17.6	14.0	15.6	17.2	16.5	16.3	15.8	15.4
				(US$ billions)				
Balance of trade (exports minus imports)	-6.8	-14.1	-58.0	-59.9	-26.0	-75.5	-88.7	-97.7
Developed economies	-3.3	-12.4	-162.6	-114.4	-94.4	-86.0	-118.8	-113.0
United States	5.3	3.3	-36.2	-39.6	-42.6	-69.3	-123.3	-145.3
Canada	-0.1	2.8	5.9	3.7	13.5	12.2	12.8	10.6
European Economic Community	-3.3	-5.4	-67.0	-36.1	-27.8	-18.9	-19.4	-16.6
Japan	-0.4	0.4	-10.7	8.7	7.0	20.3	33.6	46.3
Developing economies	-2.3	0.3	113.0	60.7	21.0	1.5	24.3	29.9
OPEC	2.4	8.2	182.2	138.1	65.6	34.1	37.2	34.7
Other	-4.7	-7.8	-69.2	-77.4	-44.7	-32.6	-12.9	-4.7
Commodity price indexes								
				(1980 = 100)				
World, nonfuel	31.1	34.7	100.0	89.4	80.0	85.2	86.6	75.9
Food	27.1	32.2	100.0	96.8	82.1	89.3	88.6	74.9
Agricultural raw materials[2]	40.6	31.6	100.0	85.3	81.1	83.6	87.8	77.3
Metals	31.6	45.3	100.0	84.8	74.8	78.5	74.2	69.6
Petroleum (Saudi Arabia)	5.2	4.5	100.0	113.4	116.8	102.2	99.3	99.7

1 All calculations are based on aggregates expressed in U.S. dollars.
2 Includes cotton, hides, jute, logs, natual rubber, and others.
SOURCE Trade data from *U.N. Statistical Yearbook*, 1981, and *U.N. Monthly Bulletin of Statistics*, May 1986; and commodity prices from International Monetary Fund, *International Financial Statistics, Yearbook*, 1983, and *International Financial Statistics*, April 1986.

Table B-2

Commodity Distribution of Canadian Exports and Imports, 1960-85[1]

	1960-70	1970-80	1980-85	1985
		(Per cent)		
Exports of goods and services (as a proportion of GNP)	18.8	23.4	26.9	29.9
Distribution:				
Merchandise	78.9	81.7	82.5	84.1
Agricultural products	8.2	5.4	5.7	4.1
Mining products	12.1	10.7	6.0	6.0
Manufactured goods	54.3	63.4	69.5	72.3
Durables	31.0	42.9	47.3	53.1
Wood and lumber	6.1	4.5	4.5	3.6
Iron and steel and nonferrous metals	11.3	7.1	6.2	6.3
Machinery and equipment	4.2	5.9	8.2	8.1
Transportation equipment	8.2	23.6	26.5	33.3
Nondurables	23.3	20.5	22.2	19.2
Food and beverages	5.1	3.8	4.1	3.6
Paper and allied products	12.8	9.2	7.7	6.5
Services[2]	24.4	18.3	16.6	14.3
Investment income	3.9	4.1	4.6	4.5
Other services[3]	5.1	4.5	4.4	3.8
Travel	7.7	4.9	3.8	3.2
Total[2]	100.0	100.0	100.0	100.0
Imports of goods and services (as a proportion of GNP)	20.4	26.0	27.6	29.9
Distribution:				
Merchandise	68.2	73.7	73.1	79.9
Agricultural products	5.8	4.9	4.8	4.5
Crude products, inedible	6.9	4.3	3.6	2.1
Processed goods, inedible	15.0	12.9	11.1	11.9
Metal products	3.9	3.2	2.7	2.7
Textile products	2.3	2.1	1.6	1.6
Highly manufactured products	37.4	49.2	50.9	58.0
Machinery and equipment	12.3	11.1	11.5	14.2
Industrial machinery	8.6	7.0	6.4	9.5
Transportation equipment	12.9	22.2	21.3	25.8
Communications equipment	1.4	2.8	4.8	4.9
Services[2]	32.7	28.0	29.7	26.7
Investment income	11.8	10.0	14.2	14.1
Other services[3]	7.4	7.0	7.2	5.5
Travel	7.1	6.4	5.2	4.5
Total[2]	100.0	100.0	100.0	100.0

1 Period averages based on estimates expressed in 1971 dollars.
2 The sums of the components do not add to the totals because freight and shipping services are excluded in the case of services, as are balance-of-payments adjustments in the case of total goods and services.
3 Business services and government transactions.
SOURCE Economic Council of Canada, CANDIDE Model 3.0, August 1986.

Table B-3

Trends in Canada's Balance of Payments, 1960-85

	1960	1970	1980	1981	1982	1983	1984	1985
Current account:								
				(Can$ millions)				
Merchandise	-148	3,052	8,778	7,328	17,813	17,647	20,726	17,475
Services	-959	-2,099	-11,093	-14,905	-16,520	-14,705	-17,364	-18,060
Freight and shipping	-91	20	513	440	585	447	468	457
Travel	-207	-216	-1,228	-1,116	-1,284	-2,204	-2,126	-2,104
Investment income	-537	-1,117	-7,119	-10,562	-11,756	-11,714	-13,794	-14,598
Other services	-207	-517	-2,226	-2,557	-2,887	-2,489	-2,725	-2,650
Transfers	-126	153	1,200	1,512	1,371	1,055	814	836
Current-account balance	-1,233	1,106	-1,114	-6,065	2,665	2,942	3,362	-584
Capital account:								
Direct investment								
- in Canada	670	905	800	-4,400	-1,000	200	2,150	-2,921
- abroad	-50	-315	-3,150	6,900	-1,075	-2,975	-3,800	-5,108
Portfolio investment								
- in Canada	236	493	5,072	10,958	11,447	5,837	7,837	12,902
- abroad	-19	70	-182	-23	-543	-1,200	-1,891	-719
Long-term balance	929	1,007	1,112	175	8,315	1,819	2,848	3,873
Net short-term flows	164	-196	-209	15,884	-8,758	1,861	-93	676
Basic balance	-140	1,917	-88	10,265	3,349	5,366	5,307	1,901
Errors and omissions	101	-387	-1,323	-8,675	-1,610	-6,074	-7,204	-5,499
Official monetary movements	-39	1,663	-1,280	1,425	-696	548	-1,089	-1,352

SOURCE Statistics Canada, *Quarterly Estimates of the Canadian Balance of International Payments*, recent issues.

Table B-4

Impact of Four Canada-U.S. Trade Scenarios on Selected Indicators, Canada, 1991 and 1995

	Consumer price index		Current-account balance		Federal balance		Real investment	
	1991	1995	1991	1995	1991	1995	1991	1995
	(Per cent)		($ millions)		($ millions)		(Per cent)	
Differences from base-case levels:[1]								
Removal of trade barriers	-2.9	-2.8	1,736	1,683	783	-721	3.4	4.1
Removal of trade barriers, plus productivity gain	-5.0	-4.8	1,848	1,203	2,114	1,145	5.5	7.0
Phased removal of trade barriers, plus productivity gain[2]	-3.1	-4.2	520	2,445	1,282	2,307	3.1	6.8
Protectionism with retaliation	2.0	0.2	-6,640	-6,522	-1,921	-5,690	-8.8	-9.3

1 The base-case solution assumes that there will be no change in trade policy beyond what is currently scheduled.
2 Assumes that the removal of trade barriers will be phased in over the period 1987-92.
SOURCE Economic Council of Canada, CANDIDE Model 3.0, August 1986.

C Tables to Chapter 5

Table C-1

Selected Financial Statistics, Canadian Petroleum Industry, 1985

	Controlling interests			Category of firm		
	Canadian	Foreign	All firms	Integrated refiners	Junior producers	Senior producers
Total operations						
Number of firms reporting	71	54	125	13	91	21
			(Per cent)			
Return on equity						
- before extraordinary items	8.1	12.3	10.1	9.2	3.4	14.9
- after extraordinary items	3.7	10.9	7.2	3.4	1.5	15.0
Interest coverage ratio (excluding extraordinary items)	2.6	9.1	4.0	7.2	1.5	4.7
Ratio of capital expenditures to internal cash flow	91.0	83.0	87.0	82.0	134.0	74.0
Upstream segment						
Proportion of total:						
Production	49.9	50.1	100.0	32.0	19.1	48.9
Gross revenue	48.1	51.9	100.0	32.3	16.6	51.0
Capital employed	60.1	39.9	100.0	25.6	28.9	45.5
Net income after taxes						
- before extraordinary items	42.6	57.4	100.0	35.2	8.6	56.2
- after extraordinary items	27.8	72.2	100.0	22.9	3.7	73.4
Internal cash flow	52.7	47.3	100.0	32.2	16.9	50.9
Capital expenditures (net of grants)	51.4	48.6	100.0	31.0	26.6	42.4
			(Dollars)			
Unit revenues and costs (per m^3):						
Gross revenue	173.6	186.7	180.2	182.2	156.5	188.1
PGRT and other taxes	12.0	14.2	13.1	13.0	10.7	14.1
Royalties and other payments	35.1	46.5	40.8	43.7	36.4	40.7
Interest expenses	18.2	2.1	10.1	0.0	22.4	11.8
Income taxes	25.4	36.5	31.0	34.5	13.7	35.4
Net income after taxes	21.4	28.7	25.0	27.5	11.3	28.8
Net income after taxes and extraordinary items	10.7	27.7	19.3	13.8	3.7	28.9
Internal cash flow	64.7	57.9	61.2	61.6	54.1	63.8
			(Per cent)			
Production statistics:						
Natural-gas share of total production	46.8	36.3	41.6	29.2	59.0	42.8
Old-oil share of conventional oil production	52.1	59.2	56.1	58.4	43.5	58.8

SOURCE Based on data from Canadian Petroleum Monitoring Agency, *Canadian Petroleum Industry, Monitoring Survey, 1985*.

Table C-2

Estimated Impact of a Reduction in Per-Unit Revenues on the Upstream Segment of the Canadian Oil and Gas Sector

	Controlling interests			Category of firm		
	Canadian	Foreign	Total	Integrated refiners	Junior producers	Senior producers
			($ per m³ of oil equivalent)			
Reduction in:						
Gross revenue (50 per cent)	86.8	93.3	90.1	91.1	78.3	94.0
PGRT and other taxes (100 per cent)	-12.0	-14.2	-13.1	-13.0	-10.7	-14.1
Royalties and other payments (50 per cent)	-17.5	-23.3	-20.4	-21.8	-18.2	-20.3
Net income before taxes	57.3	55.8	56.6	56.3	49.4	59.6
Net income after taxes (50 per cent rate)	28.6	27.9	28.3	28.1	24.7	29.8
Net income after taxes and before extraordinary items, 1985[1]	21.4	28.7	25.0	27.5	11.3	28.8
Revised net income after taxes[2]	-7.2	0.8	-3.3	-0.7	-13.4	-1.0
Internal cash flow, 1985[1]	64.7	57.9	61.2	61.6	54.1	63.8
Revised net cash flow[3]	36.1	30.0	32.9	33.4	29.4	34.0

1 From Table C-1.
2 Obtained by subtracting "net income after taxes" from "net income after taxes and before extraordinary items."
3 Obtained by subtracting "net income after taxes" from "internal cash flow."
SOURCE Based on data from the Canadian Petroleum Monitoring Agency, *Canadian Petroleum Industry, Monitoring Survey, 1985.*

Table C-3

Farm Debt and Farm Assets, Canada, 1971-84

	Debt		Assets[1]	
	Amount	Annual change	Amount	Annual change
	(Current $ millions)	(Per cent)	(Current $ millions)	(Per cent)
1971	4,564	5.9	16,912	1.0
1972	4,831	5.9	18,349	8.5
1973	5,557	15.0	22,233	21.2
1974	6,530	17.5	29,021	30.5
1975	7,829	19.9	36,641	26.3
1976	9,058	15.7	43,555	18.9
1977	10,307	13.8	49,990	14.8
1978	12,013	16.6	59,288	18.6
1979	14,156	17.8	73,151	23.4
1980	15,876	12.2	92,028	25.8
1981	18,134	14.2	103,275	12.2
1982	19,823	9.3	103,640	0.4
1983	20,830	5.1	99,404	-4.1
1984	21,602	3.7	95,042	-4.4

1 Land and buildings.
SOURCE Based on data from Statistics Canada, *Farm Net Income Reference Handbook.*

Table D-1

Unemployment Rate of Men in Families, Canada and the Provinces,[1] Annual Averages, 1977-85

	Canada	New-foundland	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia
					(Per cent)					
Heads or spouses of heads with children under 16 years										
1977	4.3	10.9	6.9	8.4	5.8	3.2	3.1	–	1.8	4.3
1980	4.3	9.6	5.6	7.6	5.9	4.0	–	–	1.6	3.1
1981	4.3	9.6	6.3	7.8	6.1	3.4	3.2	–	1.8	3.4
1982	7.7	12.9	8.3	10.5	9.6	6.7	5.3	4.2	5.3	8.5
1983	8.3	14.4	8.8	11.7	9.4	7.2	6.8	4.2	8.0	9.6
1984	7.8	15.3	8.1	11.6	8.9	5.5	5.2	5.5	9.1	10.7
1985	7.0	16.8	9.6	12.2	7.7	4.6	4.9	5.6	7.3	10.2
Other family members[2]										
1977	16.5	31.2	20.5	25.2	20.0	14.0	11.7	9.7	10.3	17.5
1980	15.3	25.3	20.0	20.7	19.0	14.1	11.6	9.1	7.5	13.8
1981	15.5	26.6	19.6	22.8	19.8	13.9	12.4	9.6	7.8	14.0
1982	22.7	34.0	27.3	27.8	26.8	20.2	17.8	13.2	16.7	26.7
1983	23.9	35.5	27.5	29.7	26.9	20.7	18.9	15.8	20.7	30.3
1984	20.9	38.5	25.5	27.1	22.3	17.4	16.3	15.1	20.3	26.9
1985	19.5	35.7	27.2	29.4	21.0	15.5	15.3	15.3	18.0	25.6

1 Detailed data for Prince Edward Island are not available.
2 Excludes all heads or spouses of heads.
SOURCE Statistics Canada, *Family Characteristics and Labour Force Activity: Annual Averages, 1977-1984*, Cat. No. 71-533, and *The Labour Force*, Cat. No. 71-001, May 1986.

Notes

CHAPTER 1

1 Peter F. Drucker, "The changed world economy," *Foreign Affairs* (Spring 1986).

2 D. Sapsford, "Real primary commodity prices: An analysis of long run movements," International Monetary Fund internal memorandum, May 1985 (unpublished).

3 By "managed trade" is meant trade that is subject to some nontariff barriers, such as quotas, voluntary export restraints, orderly market agreements, export subsidies, countervailing and antidumping duties, custom valuation procedures, and so on.

4 M. Artis and S. Ostry, *International Economic Policy Coordination*, Royal Institute of International Affairs, Chatham House Papers No. 30 (London: Routledge and Kegan Paul, 1986), pp. 47-48.

5 S. Marris, *Deficits and the Dollar: The World Economy at Risk* (Washington, D.C.: Institute for International Economics, 1985).

6 We use the term "freer trade," since it now seems clear that however comprehensive the final signed agreement may be, it will still embody exclusions important to the signing parties.

7 Examples include the United Steelworkers' program in Hamilton to counsel laid-off steel workers about appropriate skill training and re-employment possibilities; and the newly created Society for the Creation of New Enterprises (SOCRENT), established by five major employers in the Saguenay-Lac St. Jean region of Quebec, to provide risk capital to local entrepreneurs.

CHAPTER 2

1 Taken by itself, the stronger Canadian dollar in the high-growth scenario tends to dampen growth slightly. But, in combination with the other developments, by reducing inflation rates it raises real incomes and helps to create a more buoyant atmosphere for domestic investment. The reverse is true of the weak dollar in the low-growth scenario.

CHAPTER 3

1 Since our picture is drawn in U.S. dollars, we must be mindful of the impact of exchange rates on exports from the various regions.

2 This figure includes only the direct price effects of changes in oil prices on net foreign earnings from sales of energy products; it excludes the influence of these price changes on volume.

3 Alan M. Rugman and Andrew Anderson, "Administered protection: U.S. trade law as a non-tariff barrier to trade," *The World Economy* (forthcoming).

4 In our simulations, nontariff barriers include quantitative restrictions and government practices relating to procurement and valuation, and they exclude subsidies.

5 John R. Baldwin and Paul K. Gorecki, "The relationship between trade and tariff patterns and the efficiency of the Canadian manufacturing sector in the 1970s: A summary," in John Walley, ed., *Canada-United States Free Trade* (Toronto: University of Toronto Press, 1985), pp. 179-92.

6 It has been shown that total factor productivity in Canada's manufacturing sector is about 70 per cent of that of the U.S. figure and that about one-third of this differential is due to scale factors, including smaller plant sizes and more diversified plant output in Canada. The assumption of a 5 per cent increase in productivity implies that only a fraction of the potential scale economies is realized as a result of freer trade with the United States. See John R. Baldwin and Paul K. Gorecki, *The Role of Scale in Canada-U.S. Productivity Differences in the Manufacturing Sector, 1970-1979* (Toronto: University of Toronto Press, 1986), pp. 134-35.

7 A "right of establishment" enables a foreign firm to invest and establish operations in another country in order to deliver services on the spot. Developing an international rule on the right of establishment for trade in services would impinge on each country's freedom to make its own immigration and foreign-investment rules.

8 Based on special tabulations prepared by the National Accounts Branch (Business Microdata Integration and Analysis Section) of Statistics Canada.

9 Employment and Immigration Canada, "An overview of international trade and domestic labour market adjustment in Canada," November 1985 (unpublished mimeo.).

CHAPTER 4

1 Some specialized institutions such as those of investment counsellors and financial planners have carved out a niche for themselves. But this does not negate in any way the general trend towards diversification.

2 In its 1976 study of deposit-taking institutions, the Economic Council suggested that "instead of restricting particular institutions to particular functions all deposit institutions would be allowed to undertake similar functions provided they met the regulatory requirements established for each function"; see *Efficiency and Regulation* (Ottawa: Supply and Services Canada, 1976), p. 60.

3 Until now, a nonindustry or foreign investor in Ontario could own no more than 10 per cent of a dealer. Under the new changes, nonresidents, Canadian financial institutions, and nonfinancial investors individually will be able to own up to 30 per cent of an investment dealer, and as a group they will be restricted to owning 49 per cent of a dealer. Ontario intends to ask the Government of Canada to amend the *Bank Act* in order to allow banks to own more than 10 per cent of a securities dealer. In Quebec, subject to the approval of the Quebec Securities Commission, any financial institution can acquire a securities firm. For a rather novel interpretation of the political implications of recent financial and other regulatory developments in Quebec and Ontario, see Thomas J. Courchene, "Economic development and the control of economic institutions: Introductory comments," Background notes for a conference sponsored by *Le Devoir*, l'École nationale d'administration publique, and the Institute of Intergovernmental Relations, Mont-Gabriel, Quebec, May 1986.

4 Sir Jeremy Morse, "Do we know where we're going?," Per Jacobsson Lecture, Annual meeting of the International Monetary Fund, Seoul, South Korea, October 6, 1985 (mimeo).

5 Our calculations take into account the fact that the 3 per cent inventory allowance was abolished under the 1986 federal budget.

6 Prior to the introduction of the $500,000 lifetime capital gains exemption, the effective tax rates on dividends and capital gains were roughly the same.

7 Notably, the investment tax credit, accelerated capital cost allowances, and the deduction for interest expenses in combination with high statutory corporation tax rates.

8 See Michael Daly *et al.*, "A comparison of effective marginal tax rates on income from capital in Canadian manufacturing," *Canadian Tax Journal*, Vol. 35, No. 6, (November-December 1985), pp. 1154-92.

9 Royal Commission on the Economic Union and Development Prospects for Canada, *Report*, Vol. 2 (Ottawa: Supply and Services Canada, 1985), p. 208.

10 Canada's indigenous population on reserves or in the Yukon and Northwest Territories is covered by federal and territorial health care programs that go beyond hospital and medical care. They also provide free dental care, glasses, ambulatory services, drugs, and orthopedic aids.

11 By the 1980s some of the European countries had become at least as successful in cost containment as Canada, but their systems were more complicated and contentious. In achieving comparable levels of cost containment, the Canadian system was free from some of the major defects of other countries:

- patients did not have to be billed individually by the hospital;
- increased utilization did not automatically yield windfall gains to hospitals;
- the government did not have to establish guidelines justifying annual changes in payments; and
- hospitals could coordinate their capital expenditures with operating costs.

12 As reported in *The Economist*, "Profitable American hospitals," May 18, 1985, pp. 82-3; and *The Wall Street Journal*, "Reports on hospitals say high charges, extra services help chains make money," August 11, 1983, p. 5.

CHAPTER 5

1 For a more comprehensive, but earlier, analysis, see Economic Council of Canada, *Connections: An Energy Strategy for the Future* (Ottawa: Supply and Services Canada, 1985).

2 U.S. Energy Information Administration, "The impact of lower world oil prices and alternative energy tax proposals on the U.S. economy," U.S. Department of Energy, Washington, April 19, 1986 (unofficial document).

3 Unpublished estimate by Peter Eglington Associates, Ottawa.

4 As defined by the Petroleum Monitoring Agency, the upstream segment includes the activities and operations related to the search for – and to the development, production, extraction, and recovery of – crude oil, natural gas, natural gas liquids, and sulphur, as well as the production of synthetic oil.

5 "Integrated refiners" are those which have significant revenues from both upstream and downstream activities.

"Junior producers" are those firms which are primarily exploration- and production-oriented and account for less than 1 per cent of upstream revenue.

"Senior producers" are those which have more than 1 per cent of upstream revenue.

6 The unit considered here is the "cubic metre of oil equivalent," in which the equivalence to oil is based on the quantity of heat generated by each product, as measured in BTUs or in some other measurement.

7 Government of Canada, *Canada's Energy Frontiers: A Framework for Investment and Jobs* (Ottawa: Supply and Services Canada, October 1985).

8 National Energy Board, *Reasons for Decision in the Matter of Phase I: The Surplus Determination Procedures Phase of the Gas Export Omnibus Hearing* (Ottawa: Supply and Services Canada, April 1986); and *Reasons for Decision in the Matter of TransCanada PipeLines Limited Availability of Services* (Ottawa: Supply and Services Canada, May 1986).

9 Pipeline Review Panel, *A Review of the Role and Operations of Interprovincial and International Pipelines in Canada Engaged in the Buying, Selling, and Transmission of Natural Gas*, Energy, Mines and Resources Canada (Ottawa: Supply and Services Canada, June 1986).

10 Based on CANDIDE model projections that incorporate base supply projections by the National Energy Board, with modifications to the timing of certain major projects.

11 It should be noted that the impact on Alberta is moderated by the fact that there are leakages to other provinces, particularly Ontario. In the case of the reduction in investment in Alberta, only about 60 per

cent of the national output loss is ultimately experienced by Alberta. In the case of the reduction in Alberta's oil and gas output, about 90 per cent of the national output loss is felt in Alberta.

12 In Chapter 3 it was stated that the volume of Canadian grain sales fell by 21 per cent from 1984 to 1985. The 12 per cent drop in Canadian wheat exports, described here, is substantially less mainly because it compares the period 1980-81 to 1984-85, and not 1984 alone, with 1985-86, and also because it concerns wheat only and refers to crop years rather than calendar years.

13 Office of the Prime Minister, Press release, May 6, 1986. Subsequently, at a conference in Australia in late August, 14 countries (excluding the United States and the EEC but including Canada and Australia) called for collective action to end the farm-subsidy trade war and to strengthen GATT rules on agriculture.

14 Donald A. Chant, "Management and disposal of toxic wastes," in Economic Council of Canada, *Managing the Legacy*, Proceedings of a Colloquium on the environment, December 1985 (Ottawa: Supply and Services Canada, 1986), pp. 47-56.

15 "Pollution of the St. Clair River (Sarnia Area)," prepared by Environment Canada and the Ontario Ministry of Environment under the auspices of the Canada-Ontario Agreement Respecting Great Lakes Water Quality, November 18, 1985; and "St. Clair River pollution investigation report," prepared by Environment Canada and the Ontario Ministry of Environment, February 1986.

16 The Honourable Tom McMillan, Minister of the Environment, "Notes for an address to the Annual Meeting of the Cobourg and District Chamber of Commerce," February 5, 1986, p. 5.

17 See, for example, Inquiry on Federal Water Policy, *Currents of Change: Final Report* (Ottawa: Environment Canada, 1985), p. 52.

18 Economic Council of Canada, *Reforming Regulation* (Ottawa: Supply and Services Canada, 1981), Chapter 8.

19 Peter Pearse, "Comments," in Economic Council, *Managing the Legacy*, pp. 44-45.

20 Statement by the Honourable Tom McMillan, Minister of the Environment, *House of Commons Debates*, December 19, 1985, p. 9627.

21 The Honourable Tom McMillan, Minister of the Environment, "Notes for remarks to the Air Pollution Control Association Second Conference on Toxic Substances," Montreal, 8 April 1986.

22 The greenhouse effect refers to the rise in temperature, as infrared radiation rises, at the earth's surface (and a slight decline in the stratosphere), which could be caused by the CO_2 build-up caused by fossil-fuel consumption. The ozone problem refers to the possibility that persistent pollution from the man-made chemicals, chlorofluorocarbons (CFCs), may dissociate stratospheric ozone and hence weaken the screen against ultraviolet radiation. See F. Kenneth Hare, "Air quality and the energy-environment interface," in Economic Council, *Managing the Legacy*, pp. 69-75.

23 Organisation for Economic Co-operation and Development, "Environmental trends, costs and policy issues through 1990," *Environment and Economics: Issue Papers*, International Conference, June 18-21, 1984 (Paris: OECD, 1984), pp. 17-26.

CHAPTER 6

1 According to a recent Conference Board study of selected occupations, nonwage labour costs average over 20 per cent of payroll in the United States, compared with about 13 per cent in Canada, the difference being attributable to higher social-security and private medical contributions.

2 Maurice Strong, "The way to only one earth," *Policy Options*, Vol. 7, No. 6 (July/August 1986), pp. 3-10.

APPENDIX A

1 This analysis was completed after a substantial revision to the system of National Accounts was released by Statistics Canada on July 18, 1986. As a result, a careful assessment of initial conditions (historical growth rates for key series such as gross domestic product) and some updating of major aggregates to conform to the new patterns released by Statistics Canada were undertaken in addition to our normal prepublication assessment of the outlook for Canada.

2 For a detailed discussion of the relationship between the growth in labour productivity and the aggregate total factor productivity growth, see Economic Council of Canada, *Strengthening Growth: Options and Constraints*, Twenty-Second Annual Review (Ottawa: Supply and Services Canada, 1985), Chapter 3.

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